DOCUMENT RESUME

ED 459 149 SP 040 367

AUTHOR	Fairhurst, Genevieve; Gibbs, William; Jain, Pankaj; Khatete, David; Knamiller, Gary; Welford, Geoff; Wiegand, Patrick
TITLE	The Effectiveness of Teacher Resource Centre Strategy. Full Report. Education Research.
INSTITUTION	Department for International Development, London (England).
REPORT NO	DFID-Ser-34
ISBN	ISBN-1-86192-141-1
PUB DATE	1999-00-00
NOTE	259p.; Edited by Gary Knamiller.
AVAILABLE FROM	Department for International Development, Education Department, 94 Victoria Street, London SW1E 5JL, England, United Kingdom.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC11 Plus Postage.
DESCRIPTORS	Educational Quality; *Educational Resources; Elementary Secondary Education; *Faculty Development; Foreign Countries; *Inservice Teacher Education; Program Effectiveness; Teacher Effectiveness; *Teacher Improvement
IDENTIFIERS	India; Kenya; Nepal; Zambia

ABSTRACT

During 1997-98, a research team from the University of Leeds investigated the effectiveness of teacher resource centers (TRCs) as a strategy for teacher development in developing nations. The study included a literature review and fieldwork in four countries (India, Kenya, Nepal, and Zambia). The study examined the extent to which TRCs helped improve the environment for learning in schools and the quality of teaching and learning in classrooms. It also examined issues surrounding TRCs and how TRCs were affected by those issues. Data collection involved literature reviews and observations and interviews at TRCs and in schools in the four countries. Results indicated that it was very difficult for TRCs to achieve their goal of improving teachers' classroom performance and thus positively impacting teaching and learning, because they were detached from work at schools. Overall, the TRCs and their inservice courses were used very little in all four countries and made little significant contribution to improved teaching and learning in schools. Teachers had to leave their classes to go to TRC activities, so the TRCs actually contributed to teacher absenteeism. Sustainability depended on outside resources, particularly international donors. (Contains 227 references.) (SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

Knowledge & Research

DFID Department for International Development

SP

EDUCATION RESEARCH

ED 459 149

THE EFFECTIVENESS OF TEACHER RESOURCE CENTRE STRATEGY

PERMISSION TO REPRODUCE AND
DISSEMINATE THIS MATERIAL HAS
BEEN GRANTED BY
S. Arthur
TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)
1

Edited by Gary Knamiller
Authors: Genevieve Fairhurst, William Gibbs, Pankaj Jain,
David Khatete, Gary Knamiller, Geoff Welford and Patrick Wiegand

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
● Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Serial No. 34

BEST COPY AVAILABLE

Department For International Development

EDUCATION RESEARCH

THE EFFECTIVENESS OF TEACHER RESOURCE CENTRE STRATEGY

FULL REPORT

Edited by Gary Knamiller
Authors: Genevieve Fairhurst, William Gibbs, Pankaj Jain,
David Khatete, Gary Knamiller, Geoff Welford and Patrick Wiegand

1999

Serial No. 34
ISBN: 1 86192 141 1

Department For International Development

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

EDUCATION PAPERS

This is one of a series of Education Papers issued from time to time by the Education Division of the Department For International Development. Each paper represents a study or piece of commissioned research on some aspect of education and training in developing countries. Most of the studies were undertaken in order to provide informed judgements from which policy decisions could be drawn, but in each case it has become apparent that the material produced would be of interest to a wider audience, particularly but not exclusively to those whose work focuses on developing countries.

Each paper is numbered serially, and further copies can be obtained through the DFID's Education Division, 94 Victoria Street, London SW1E 5JL, subject to availability. A full list appears overleaf.

Although these papers are issued by the DFID, the views expressed in them are entirely those of the authors and do not necessarily represent the DFID's own policies or views. Any discussion of their content should therefore be addressed to the authors and not to the DFID.

LIST OF OTHER DFID EDUCATION PAPERS AVAILABLE IN THIS SERIES

No. 1 Pennycuick, D. 1993 'SCHOOL EFFECTIVENESS IN DEVELOPING COUNTRIES: A SUMMARY OF THE RESEARCH EVIDENCE' ISBN: 0 90250 061 9

No. 2 Hough, J.R. 1993 'EDUCATIONAL COST-BENEFIT ANALYSIS' ISBN: 0 90250 062 7

No. 3 Gray, L. et al 1993 'REDUCING THE COST OF TECHNICAL AND VOCATIONAL EDUCATION' ISBN: 0 90250 063 5

No. 4 Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN MALAWI' ISBN: 0 90250 064 3 (See also No. 24)

No. 5 Williams, E. 1993 'REPORT ON READING ENGLISH IN PRIMARY SCHOOLS IN ZAMBIA' ISBN: 0 90250 065 1 (See also No. 24)

No. 6 Lewin, K. 1993 'EDUCATION AND DEVELOPMENT: THE ISSUES AND THE EVIDENCE' ISBN: 0 90250 066 X

No. 7 Penrose, P. 1993 'PLANNING AND FINANCING:SUSTAINABLE EDUCATION SYSTEMS IN SUB-SAHARAN AFRICA' ISBN: 0 90250 067 8

No. 8 (not issued)

No. 9 Brock, C. Cammish, N. 1991 (Revised 1997) - 'FACTORS AFFECTING FEMALE PARTICIPATION IN EDUCATION IN SEVEN DEVELOPING COUNTRIES' ISBN: 1 86192 065 2

No. 10 Rogers, A. 1994 'USING LITERACY: A NEW APPROACH TO POST-LITERACY METHODS' ISBN: 1 86192 070 9 (see also No. 29)

No. 11 McGrath, S. King, K. et al. 1995 (Reprinted 1997) 'EDUCATION AND TRAINING FOR THE INFORMAL SECTOR' Vol 1. and Vol. 2 - Case studies. ISBN: 1 86192 090 3

No. 12 Little, A. 1995 'MULTI-GRADE TEACHING: A REVIEW OF RESEARCH AND PRACTICE' ISBN: 0 90250 058 9

No. 13 Bilham, T. Gilmour, R. 1995 'DISTANCE EDUCATION IN ENGINEERING FOR DEVELOPING COUNTRIES' ISBN: 0 90250 068 6

No. 14 Barnett, E. de Koning, K. Francis, V. 1995 'HEALTH & HIV/AIDS EDUCATION IN PRIMARY & SECONDARY SCHOOLS IN AFRICA & ASIA' ISBN: 0 90250 069 4

No. 15 Gray, L. Warrender, A.M. Davies, P. Hurley, G. Manton, C. 1995 'LABOUR MARKET SIGNALS & INDICATORS' ISBN: 0 90250 070 8

No. 16 Lubben, F. Campbell R. Dlamini B. 1995 (Reprinted 1999) 'IN-SERVICE SUPPORT FOR A TECHNOLOGICAL APPROACH TO SCIENCE EDUCATION' ISBN: 0 90250 071 6

No. 17 Archer, D. Cottingham, S 1996 'ACTION RESEARCH REPORT ON REFLECT' ISBN: 0 90250 072 4

No. 18 Kent, D. Mushi, P. 1996 'THE EDUCATION AND TRAINING OF ARTISANS FOR THE INFORMAL SECTOR IN TANZANIA' ISBN: 0 90250 074 0

No. 19 Brock, C. Cammish, N. 1997 'GENDER, EDUCATION AND DEVELOPMENT - A PARTIALLY ANNOTATED AND SELECTIVE BIBLIOGRAPHY' ISBN: 0 90250 076 7

No. 20 Taylor, P. Mulhall, A. 1997 'CONTEXTUALISING TEACHING AND LEARNING IN RURAL PRIMARY SCHOOLS:USING AGRICULTURAL EXPERIENCE' Vol 1 ISBN: 1 861920 45 8 Vol 2 (Case Studies) ISBN: 1 86192 050 4

No. 21 Kutnick, P. Jules, V. Layne, A. 1997 'GENDER AND SCHOOL ACHIEVEMENT IN THE CARIBBEAN' ISBN: 1 86192 080 6

No. 22 Bourne, R. Gundara, J. Dev, A. Ratsoma, N. Rukanda, M. Smith, A. Birthistle, U. 1997 'SCHOOL-BASED UNDERSTANDING OF HUMAN RIGHTS IN FOUR COUNTRIES: A COMMONWEALTH STUDY' ISBN: 1 86192 095 4

No. 23 Stephens, D. 1998 'GIRLS AND BASIC EDUCATION: A CULTURAL ENQUIRY' ISBN: 1 86192 036 9

No. 24 Williams, E. 1998 'INVESTIGATING BILINGUAL LITERACY: EVIDENCE FROM MALAWI AND ZAMBIA' (Updated and combined reissue of Serial No. 4 & 5) ISBN: 1 86192 041 5

No. 25 Swainson, N. Bendera, S. Gordan, R. Kadzamira, E.1998 'PROMOTING GIRLS' EDUCATION IN AFRICA: THE DESIGN AND IMPLEMENTATION OF POLICY INTERVENTIONS' ISBN: 1 86192 046 6

No. 26 Rosenberg, D. Sidibé, A. Radebe, T. Amaral, W. Odini, C. 1998 'GETTING BOOKS TO SCHOOL PUPILS IN AFRICA' ISBN: 1 86192 051 2

No. 27 Penrose, P. 1998 'COST SHARING IN EDUCATION' ISBN: 1 86192 056 3

No. 28 Bennell, P. Bendera, S. Kanyenze, G. Kimambo, E. Kiwia, S. Mbiriyakura, T. Mukyanuzi, F. Munetsi, N. Muzulu, J. Parsalaw, W. Temu, J. 1999 'VOCATIONAL EDUCATION AND TRAINING IN TANZANIA AND ZIMBABWE IN THE CONTEXT OF ECONOMIC REFORM' ISBN: 1 86192 061 X

No. 29 Rogers, A. Maddox, B. Millican, J. Newell Jones, K. Papen, U. Robinson-Pant, A. 1999 'RE-DEFINING POST-LITERACY IN A CHANGING WORLD' ISBN: 1 86192 069 5

No. 30 Monk, M. 1999 'IN SERVICE FOR TEACHER DEVELOPMENT IN SUB-SAHARAN AFRICA' ISBN: 1 86192 074 1

No. 31 Carter I. 1999 'LOCALLY GENERATED PRINTED MATERIALS IN AGRICULTURE:EXPERIENCE FROM UGANA AND GHANA' ISBN: 1 86192 079 2

No. 32 Ratcliffe M, Macrae M. 1999 'SECTOR WIDE APPROACHES TO EDUCATION – A STRATEGIC ANALYSIS' ISBN: 1 86192 131 4

No. 35 McKay V. Treffgarne C. (eds) 1999 'EVALUATING IMPACTS' ISBN: 1 86192 191 8

No. 36 Alemna A. Chifwepa V. Rosenberg D. 1999 'AFRICAN JOURNALS - AN EVALUATION OF THE USE MADE OF AFRICAN-PUBLISHED JOURNALS IN AFRICAN UNIVERSITIES' ISBN: 1 86192 157 8

No. 37 Carr-Hill R. Hopkins M. Riddell A. Lintott J. 1999 'MONITORING THE PERFORMANCE OF EDUCATIONAL PROGRAMMES IN DEVELOPING COUNTRIES' ISBN: **to be confirmed**

OTHER DFID EDUCATION STUDIES ALSO AVAILABLE

Swainson, N. 1995 'REDRESSING GENDER INEQUALITIES IN EDUCATION'

Wynd, S. 1995 'FACTORS AFFECTING GIRLS' ACCESS TO SCHOOLING IN NIGER'

Phillips, D. Arnhold, N. Bekker, J. Kersh, N. McLeish, E. 1996 'EDUCATION FOR RECONSTRUCTION'

Rosenberg, D. 1996 'AFRICAN JOURNAL DISTRIBUTION PROGRAMME: EVALUATION OF 1994 PILOT PROJECT'

Jessop, T. 1998 'A MODEL OF BEST PRACTICE AT LORETO DAY SCHOOL, SEALDAH, CALCUTTA'

All available free of charge from DFID Education Department, 94 Victoria Street, London SW1E 5JL

Abstract

In 1997/98 a research team from the University of Leeds were funded by DfID to make a study of the effectiveness of the Teachers' Centre as a strategy for teacher development. The work was in two stages: a literature survey and field work in four countries, Andhra Pradesh in India, Kenya, Nepal and Zambia. In-country counterparts worked with the Leeds team and contributed valuable contextual insights to the outcomes.

The Project report is an extensive document. It reviews the issues confronting teacher development using teachers' centres as their organising principle, detailed observations are made through the country case-studies and putative solutions are advanced.

The Executive Summary is written to be both free-standing and to be situated within the main report. As with the report it addresses the growth and development of teachers' centres, their function, funding facilities and staffing, issues to do with developing teachers professionally, the carry over from teachers' centre activity into the classroom and impact on student learning before summarising the reports conclusions and recommendations.

The country case-studies are presented in some detail to represent the complexity of both the issues and their local interpretation. It is acknowledged that the reader might wish to read one or more of these closely and they too may be read separately from the main body of the report.

The conclusions and recommendations draw on all the data - the available literature and the cases studied. They are intended to go beyond the particular cases studied to apply to the use of teachers' centres as a general strategy for teacher professional development.

Acknowledgements

The research team from the University of Leeds Schools of Education extends its warmest thanks to colleagues in the countries where the case studies were done and who participated so closely in carrying out the case studies in their countries:

Pankaj Jain in India
Jason Kazilimani in Zambia
David Khatete in Kenya
Sharada Maharjan and Rakesh Shrestha in Nepal
Bob Prophet in Botswana.

To all those teachers, children and education personnel we visited we wish to say thank you very much for your hospitality, time, patience and insights into the quality of education in your communities.

We would like to thank the Education Division of the Department for International Development for conceiving the research problem and fundingthe study. Special thanks to Terry Allsop who was a most willing mentor, and to Graham Larkbey who helped us with getting the report to press.

Tony Davison of The British Council and Patrick Whittle of Cambridge Education Consultants gave us very good advice and much of their precious time. Thank you.

A special thanks goes to Keith Sims at the Elmete Professional Development Centre for his close support and help in letting us into the intricacies of the new breed of teacher centres, and for his visit to Botswana which informed the design of our case studies.

Thanks to Bernadette Stiell who helped early in the project to gather relevant material for the desk study.

Finally we gratefully acknowledge the valuable assistance and efficiency of Sarah Boyes in the International Education Office at the School of Education University of Leeds.

List of Acronyms

AIEMS	Action to Improve English, Maths and Science (Zambia)
APPEP	Andhra Pradesh Primary Education Project (India)
AKES	Aga Khan Education Service (Kenya)
BPEP	Basic and Primary Education Project (Nepal)
DFEE	Department for Education and Employment (UK)
DfID	Department for International Development (UK)
INSET (inSET)	In-Service Education of Teachers
ODA	Overseas Development Administration (UK)
SEDP	Secondary Education Development Project (Nepal)
SEP	Secondary Education Project (Nepal)
SHAPE	Self Help Action Plan for Education (Zambia)
SIDA	Swedish Development Aid
SIP	School Improvement Project (Kenya)
SPRED	Strengthening Primary Education (Kenya)
TRC (TC)	Teacher Resource Centre

List of Contents

Executive Summary 1

Chapter 1 'Purpose and Methodology of the Study' 25

Chapter 2 'The British Teachers' Centre - Its Rise And Fall': A Review of the Literature 33

Chapter 3 'The Teachers' Centre as a Strategy for Teacher Development in the Developing World': A Review of the Literature 60

Chapter 4 'Teacher Resource Centres in Andhra Pradesh' 95

Chapter 5 'Teacher Resource Centres in Kenya' 120

Chapter 6 'Teacher Resource Centres in Nepal' 155

Chapter 7 'Teacher Resource Centres in Zambia' 178

Chapter 8 'Findings and Comment' 215

Chapter 9 'Implications and Options' 227

References 232

EXECUTIVE SUMMARY

1 Introduction.

1.1 Between 1997 and 1998, a team from the University of Leeds School of Education made a study of teachers resource centres for the Department for International Development (contract No. - CNTR 95 5578A). This paper provides a brief summary of the detailed report of this study. The major aim of the study was to attempt to assess the effectiveness of teacher resource centres (TRCs) as a strategy in attempting to improve the quality of education in schools in developing countries.

The study was in part a summative evaluation. The basic question that drove this aspect of the study was: *'To what extent do TRCs help to improve the environment for learning in schools and the quality of teaching and learning in classrooms?'*

The study was also intended to be a formative evaluation in that it sought to shed light on what might be done with existing TRCs to make them more effective. The basic question that drove this part of the study was: *'What are the issues surrounding TRCs; how are TRCs affected by these issues; and how do they react to them ?'*[1]

1.2 The research methods employed in the study were a literature review followed by case studies in four countries: Kenya and Zambia in Africa, Andhra Pradesh, India and Nepal in Asia. Each of the projects in the case studies has on-going, British assisted educational development programmes, which include teacher resource centres of different forms and functions. Brief details of each of the projects and the roles of the TRCs within the projects are given in Section 2 below.

The team from the University of Leeds spent two, 2 week periods in their respective countries with which they were very familiar through previous and, in some cases, extended periods of work. The visits were separated by 3-5 months. The team were greatly supported by host country colleagues who accepted roles as in-country counterparts. The counterparts added greatly to the work by putting the research into context because they were part of the education system and could gain access to relevant people within their respective systems. They also engaged in an on-going process of observation beyond the time in-country of their UK colleagues.

In each country, on the basis of a number of agreed focuses, a wide range of interviews were conducted and observations were made at TRCs and in schools. In particular, by applying a *tracer* technique, the study attempted to establish if the ideas and materials available to teachers through the activities and services of the TRCs were actually being implemented in schools and classrooms. However, because of the nature of the research, the methodologies and procedures adopted in each country had to be determined to some extent by the opportunities afforded to team members and were adapted accordingly along agreed lines to allow the research to maximise data collection while allowing comparisons wheer appropriate.[2].

---

[1] A list of subsidiary questions for each part of the research are given in Section 2 of the main report.

1.3 In the summary that follows the development of TRCs is put into context before mention is made of some of the general issues that were identified in relation to the use of TRCs as a strategy for teacher development. In Sections 5 and 6 we report and comment on some of the findings and observations made in the TRCs and in the schools. Finally we consider ways in which the TRCs studied were effective in that aim and we suggest a number of conditions which we feel would allow TRCs to function more effectively.

---

[2] Full details of the research instruments and procedures are given in Section 3 of the main report.

2 A Brief Outline of the Case Studies.

Country	Project	Previous Project/s	Funding	Role of the Teachers' Centre in the Project.
India - Andrah Pradesh	District Primary Education Project (DPEP)	The Andhra Pradesh Primary Education Project (APPEP)	DfID	In-service education courses are held elsewhere. The teachers' centre is a meeting place, usually a classroom in a school, for a cluster of 7-13 schools. Teachers who have attended the central training courses attend 6 mandatory meetings each year.
Nepal	Basic and Primary Education Project (BPEP)		ADB	There are around 700 Resource Centres (RCs) serving over 9,000 primary schools. Each centre serves a cluster of 10-25 schools. These are multipurpose centres for: training, materials development, teachers' library, exam centre, parents' meetings and a community hall. A Resource Person (RP) looks after 2 RCs. Their main work is school support.
Nepal	Secondary Education Development Project (SEDP)	Science Education Development Project (SEDP)	DfID in a consortium of funders including ADB and World Bank	There are 25 Secondary Education Development Units (SEDUs) each serving 1-4 districts. These play a major part in in-service teacher training programme for secondary teachers. SEDU Master Teachers (SMTs) are principally training course managers, they are also trainers and they make follow-up visits to schools.
Zambia	Action to Improve English Maths and Science (AEIMS)	Self Help Action Plan for Education (SHAPE)	DfID	Each of the 16 provincial Resource Centres is run by 3 subject co-ordinators. The district centres have a co-ordinator who is an experienced primary teacher. Each district has three subject trainers. The centres have a role in a cascade system of in-service training and as resource centres.

Kenya	Teachers' Resource Centres TRCs	English Language Programme (ODA)	Gov. of the Republic of Kenya & a levy on parents	TRCs are centres for English teachers in secondary schools. They have not had donor funding since 1992. The main role of the 25 TRCs is to loan out class sets of English readers and reference books for teachers. There is also a small in-service programme based on local needs analysis.
Kenya	Strengthening Primary Education Programme SPRED II	Strengthening Primary Education Programme SPRED I	Gov. of the Republic of Kenya & DfID	System of Teacher Advisory Centres (TACs) developed in 1978 for primary teachers. TACs are staffed by TAC tutors with offices usually in a primary school. District TACs carry reference and other materials but few Zonal TACS have any resources. TAC tutors are full-time advisers who visit teachers in their group of 10-15 schools, work with the zonal inspector and facilitate workshops. Workshops are either zonal or school based. Zonal workshops are held in convenient school in the Zone. After each workshop the TAC tutor provided follow-up visits to the teachers.
Kenya	School Improvement Programme (SIP) Mombasa	School Improvement Programme (SIP) Kisumu	Aga Kahn Found-ation Education Service (AKES). Mombasa Municipality & DfID	SIP TACS have a TAC tutor and a Programme Officer (PO). Each TAC services about 12 primary schools within 3-5 kms of the TAC. The TAC facilities - safe storage for materials and a meeting room for workshops - must be provided by the community. Resources are provided by the project. POs spend three days each week working intensively in 3-4 schools. A different group of schools is targeted each year. On these days the TAC tutor visits the other schools in the cluster. The P0s meet together each week to plan and prepare in-service workshops, they also work with the tutor at their TAC to identify needs and prepare for workshops.

3 General Points About the Growth and Development of Teachers' Centres.

Teachers' centres began in Britain in the 1960s. Over time, they came to be regarded as a very successful way of supporting professional development for teachers and of providing access to a range of educational resources. However, the effectiveness of the teachers' centre as a strategy, in terms of its impact on schools, was never properly assessed in Britain. Towards the end of the 1980s, with the advent of a National Curriculum and the need for rapid and efficient retraining of all teachers, effectiveness became much more relevant and teachers' centres began to decline. More efficient and effective strategies were developed which did not see individual professional development as a priority, but instead focused training more the school development plans and the groups of teachers implementing those plans.

The teachers' centre as a model has influenced teacher development in other countries around the world. In the early 1970s, teachers' centres were enthusiastically sold abroad as an effective way of responding to teachers' needs and of ensuring professional growth (Kahn 1982, Gough 1989). However, some doubt is expressed in the literature about whether a model, developed in Britain in a very *ad hoc* way in response to particular demands, could be used as a strategy for improving education elsewhere (Gough 1989, Hawes 1977, Hoppers 1996).

There are a number of underlying ideas commonly identified with teachers' centres, the most enduring one being that they should address teachers' needs. However, what teachers' centres actually become and what they can achieve seems to depend very much on the context in which they are used. The variety of use we encountered in the literature and in the projects in our study, illustrates that the term 'teachers' centre' certainly doesn't represent one model. More importantly perhaps, for a wide range of contextual and ideological reasons, the model developed and hailed as successful in Britain is generally not the one that has survived the influence of donor aided projects in the developing world.

The literature concerning teachers' centres and the project histories in our study shows that the teachers' centres in developing countries have changed over time. In many countries they began in a small way to address local needs. More recently, with the moves to dramatically increase education provision and improve the quality of education, successive donor aided projects have taken over the running of teachers' centres. These projects have rejuvenated the centres and often increased their number, and then they have used them for their own purposes. Under each project the role of the teachers' centre and the contribution it has made to teacher development and to improved practice in schools has changed. All of the teachers' centres in our case studies had been taken over by a recent project or were part of a new phase of an established programme.

4 General Issues Relating to the Teachers' Centre

4.1 Function.

A disparity appears to exist between what teachers' centres are felt to do best and what teachers actually get out of them. This was true in Britain where, on one hand teachers' centre wardens and bodies such as the Schools Council emphasised the value of teachers engaging in local level curriculum development at the teachers' centre, while on the other hand teachers were more interested in attending practical courses and having access to a wide range of resources. Reviews of centres in Britain show that there was actually very little systematic curriculum development and that only small groups of teachers and head teachers engaged in such activities. It was concluded that material production and curriculum development were very difficult tasks for teachers to achieve in limited sessions at a teachers' centre (Weindling et al. 1983).

The underlying idea that the teachers' centre would encourage professional interaction and a certain level of curriculum development and materials production, which in turn would result in improvement in the quality of teaching was present in all our case studies. However the extent to which this ideal is realised varies considerably. In Andhra Pradesh and Zambia, teachers were supposed to reflect on practice, exchange experiences and develop materials at the teachers' centre. However, in both projects the centrally determined programme failed to support these ideals. In Zambia, the only strategy that appeared to be giving teachers the opportunity to think about teaching was the newly established, school based Teacher Workshop programme. The tightly structured meetings at the centres in Andhra Pradesh allowed few opportunities for teachers to consider problems and exchange ideas. On top of this lack of formative opportunity, there was a scarcity of the skilled personnel needed to facilitate a more critical level of reflection.

The emphasis at the teachers' centres in Nepal was on training and dissemination with little provision for individual or school needs. Only in Kenya did we find that teachers' centres were providing on-going support for what the teachers were doing. Workshops focused on exams and syllabuses and in the secondary TRCs provided essential resources although only to those teachers and schools within easy reach of the centre.

With the exception of the SIP project in Kenya, there was considerable contrast between the British centres and the centres in our case studies in terms of resources and personnel to run the service. If teachers in Britain with the existing levels of resource availability found it difficult to produce materials and develop the curriculum for the local situation then it is entirely predictable that teachers in the developing world must find such activities many times more difficult to accomplish successfully.

4.2 Issues Relating to Training.

One of the main role for the teachers' centres in the projects of our study related to the provision of in-service courses or workshops for teachers. In fact it was impossible to look at what was happening at the teachers' centres without considering some of the wider issues relating to in-service training in each of our projects. Within the constraints of our study it was not possible, and never intended, to provide an in-depth study of in-service provision. However, we identified a number of issues relating to in-service training which influenced the effectiveness of the teachers' centres in the four countries and their projects we looked at.

4.2.1 Approach to training.

The most effective approach to teacher training is much debated in the literature on this subject. Influential factors for choice of approach are identified as the teachers and their experience and knowledge, the context in which they teach, the demands of syllabuses, exams and the pressures of innovation.

The teachers in Britain were relatively well trained, very well resourced and, possibly most importantly, had a high level of autonomy in terms of curriculum and classroom practice. Also the courses they attended at the teachers' centre were not proposing that they should make any radical changes in their practice. Given the very different conditions in the developing world, there is discussion in the literature about whether the teachers' centre is necessarily the most appropriate place for in-service training.

The courses provided by the centres in Britain were not attempting to disseminate or interpret centrally directed policies. They were mainly intended to support and extend what teachers were already doing. In contrast to this, the in-service courses in Andhra Pradesh, Nepal and Zambia, were tied to pedagogical philosophies, principles and methods predetermined by the projects. Courses were planned and prepared centrally by high ranking national personnel and overseas consultants.

The aim of the courses of the projects in these three countries was to change what teachers did in the classroom and thereby to improve the quality of teaching and learning in schools. One of the main points that reoccurs through the discussions of observations and findings in our study is that the impact of these centrally developed programmes of INSET was, in fact, very limited. It was felt that the lack of impact was due partly to a perception that the ideas being transmitted were too abstract or too general so that it was not easy for teachers to apply them in the classroom.

4.2.2 The cascade as a system of training.

When we considered the approach each project had taken towards training, the cascade model adopted by two of the projects, in Andhra Pradesh and in Zambia, gave particular cause for concern. One of the problems identified with this approach was that, to be effective, the cascade needed to be regularly fed with well considered, high quality input. This was very demanding of the personnel responsible for preparing the courses because they rarely had the necessary combination of imagination, experience in the classroom and experience of the limitations of the cascade system.

A further problem resulted from the way that the training systems in these two projects attempted to transmit the same content to all teachers with minimal transmission loss. To achieve this they used the same course for each level in the cascade. However, it was found that at each level the training was inadequate for the needs of the participants at that particular level. As a result, in Andhra Pradesh the tutors at the teachers' meetings, who needed to make appropriate interventions in response to model lessons, didn't receive any training to help them to support the teachers. And in Zambia, while the course prepared the higher levels for training, it did not have obvious links with the training for the teachers and it did not have real practical application for the classroom.

Another problem was that the conditions at each level of the cascade limited what was possible at every other level. This meant for example that although video facilities were available centrally, which would probably have helped the trainers at the top of the cascade to consider practical applications in the classroom, videos could not be used in the cascade because facilities were not available at the level at which the teachers were trained. Similarly, though it would have been useful to demonstrate or try out methods with groups of children at the bottom of the cascade, the lack of experience and expertise at the top made this impossible. The emphasis in the courses was therefore on underlying theory rather than practical and relevant application. One positive outcome of this system of training, which was also noted in a study of a similar system in England (Kinder and Harland 1991), was that the trainers benefited in terms of increased skills and knowledge, though impact on teachers was limited.

4.2.3 The relevance of in-service courses.

Research into methods of achieving change in teacher behaviour suggests that teachers are more likely to adopt practices which have similarities with what they are already doing and which are easily applied in their classrooms. Beeby (1986), for instance, recommends that it is much better to help teachers to do what they do already more effectively than to try to get them to switch to a radically different concept of education. The World Bank Review in 1995 found that input from a teachers' centre was not used unless the inputs fitted local conditions and unless teachers were confident about how to use them.

The problem of lack of relevance of in-service courses and teachers' centre workshops was noted in three of our projects. In the teachers' centre meetings in Andhra Pradesh the teachers were asked to plan and demonstrate one-off, model lessons which made use of the six educational principles being targeted by the project. However these lessons did not form part of the teachers on-going planning and teaching at the school. The lack of sequential planning and the lack of relevance to what teachers normally did seemed to ensure that this type of planning did not go back to the school with the teachers. In Zambia the abstract approach to ideas and skills during training sessions succeeded in raising awareness, but it did not appear adequately to develop skills for the classroom, nor did it help teachers to engage in critical reflection about their teaching. There seemed to be a lack of valid inputs leading to clear and effective changes in the classroom.

In contrast to this, in Kenya the limited in-service courses at the TRCs were at least mainly trying to help teachers to work with the English texts in the exam syllabus.

4.2.4 Stages of teacher development.

One often repeated claim in the literature is that a staged approach to INSET is most effective, especially where change in practice is required. In particular the work of Joyce and Showers (1980:379) is much quoted. Joyce and Showers found that after training teachers quickly reverted to their usual tried and tested routines rather than persisting with new behaviours that they felt awkward with. They suggest that a 'coaching' stage in the training process helps to get teachers past the feeling of being 'temporary novices'. The implication of their findings is that following training sessions trainers need to support teachers in the classroom.

Some form of in-school support was intended in the projects studied in each of our case studies. However, in practice this strategy not only worked in quite different ways in each of the projects, but it also had considerably different levels of impact. In Nepal the trainers from the teachers' centres were supposed to visit the trainees who had attended their courses, but they found this difficult to achieve because of the number of schools, the distances involved and the lack of transport.

The newest phases of the DPEP project in Andhra Pradesh intend to have a level of personnel who go into schools to support the training, but the vast numbers of schools involved in the project will make real impact from this strategy very difficult to achieve. The training in Zambia was in reality becoming increasingly school rather than teachers' centre based. However, this involved teachers meeting in groups in the schools rather than receiving support in the classroom. In the primary SPRED II project in Kenya, teachers' centre tutors did visit schools after training workshops, but because of the newness of this phase of the project the effectiveness of these occasional visits was difficult to assess.

Only in the Kenya SIP project was the support in schools a major ingredient of the training. This represented a response by the donors to the feeling that teachers' centre workshops and the sporadic support in school from TAC tutors was not achieving the level and pace of improvement in the quality of education that they had hoped for. By putting in another level of trained, experienced personnel to target schools in an on-going way, the donors hoped to have a greater and more lasting effect on what happened in the classroom.

4.3 Provision of Resources

Resources were not a major concern of the teacher's centres in our projects. The TRCs in Kenya were the main exception to this. Their main function was to provide reference books for teachers and to lend out class sets of the books required for the English syllabus.

The level and type of resources available at the centres in the other projects varied enormously. However, the main idea for most of the teachers' centres was that they should attempt to increase the scant resources available for teaching and learning in schools by helping teachers to make their own materials. It was noted that in Zambia, where the facilities for producing materials were very much under used, there was no culture of teachers making learning materials. This was understandable considering the size of the teaching groups and the cost in terms of time and money.

5 Observations made at the Teachers' Centres

The teachers' centres in each of our case studies had their own identity, range and type of activities and their own level of effectiveness. A comparison between the British model and the various teachers' centres we observed clearly demonstrates how difficult it is to define this intervention. The funding, the roles of the staff, the facilities available and the activities and resources associated with the teachers' centres show a bewildering level of variation.

5.1 Funding

The teachers' centres in Britain received regular and reliable funding from the local education authority. In each of our case studies, the funding and consequently the direction of the teachers' centres had changed in the last ten years. In Nepal, it was felt that the changes of priority and direction of successive projects, and the state of flux in the education system generally, needed to be taken into account when trying to critically analyse the work of the teachers' centres.

Where donor funding had been discontinued as a project ended, even where this had only been for a short time, the functioning of the teachers' centres had been affected. In Kenya, donor funding for the TRCs had stopped in 1992, and the teachers' centres were found to be functioning at a fairly low level of activity. The TRC tutor was still paid by the government, but the levy from headteachers was not always forthcoming and only about 60% of eligible schools participated in the programme. Where financial support was lacking or only half hearted the tutor was found to be struggling to maintain a useful level of service. In Andhra Pradesh, in the last year of the previous project, there was substantial evidence of meetings lapsing as a result of breaks in continuity of funding from the government. While the amounts of money involved were very small they did seem to be vital to the functioning of the teachers' meetings.

In contrast to this, when the SIP programme in Kenya funded and trained extra expert staff at the Teacher Advisory Centres (TACs) in order to achieve intensive school input, the TAC workshops had a noticeable positive impact on effectiveness in the schools being targeted by the project.

The projects in our case studies were employing a number of different strategies to make teachers' centres more self sufficient. However, adequate and reliable funding seemed to be necessary for the teachers' centre to really have an impact on teaching. When financial support from donors ended, we felt that the teachers' centres would inevitably change their focus and level of activities. The difficulties being faced by the centres remaining from the Kisumu phase of the SIP project in Kenya, described in detail in the main study, suggest that it would certainly be useful for any project to anticipate and possibly help teachers' centres to prepare for eventual changes of function.

5.2 Staffing

The role of the teachers' centre warden in Britain was identified as vital by most commentators. Wardens had status and a fair level of autonomy. Their success was partly attributed to their flexibility and to the way they were quick to respond to new demands and challenges. They had responsibility for the co-ordination of INSET but the LEA advisory staff mainly provided the actual courses. The centres they managed provided stimulating environments for teachers and were generally found to expand and adapt impressively under their guidance.

In the literature about teachers' centres abroad, the role of manager or co-ordinator of the teachers' centre was also seen as important to effectiveness. However, this role rarely afforded status, often being allocated to a teacher seconded from a local school. The person running the teachers' centre usually had very limited autonomy. Besides being managers and co-ordinators, they were often also expected to be the key providers of in-service courses usually without specialised training on how to do so or where to obtain experts to contribute to programmes.

The role and effectiveness of the teachers' centre managers in our case studies varied considerably. In the two projects with cascade training, in Andhra Pradesh and Zambia, the teachers' centre co-ordinators were primarily facilitators and trainers in the cascade. However, in Andhra Pradesh, the task of facilitating the meetings at the teachers' centre demanded much more of the Resource Person than the cascade training programme had provided. As well as supporting the initial training in the six APPEP principles, they needed to interpret these principles in the light of local circumstances and the skill of participating teachers. The lack of skilled intervention at the teachers' centre meetings seemed to result in little progress for the teachers in terms of the development of professional skills. As training became increasingly school based in Zambia, the teachers' centre was losing its role and purpose. The co-ordinators at the teachers' centres needed to initiate and adapt in response to this change, but so far there was not much sign of this happening.

The TRC tutors in Kenya were senior teachers with a number of other obligations. The basic resource management at the TRCs was very well executed and the tutors were found to open the TRC more than was required of them by the committees. However, their achievements were limited because of their other duties and the lack of time. In the SPRED II TAC system the TAC tutors worked at school level more than at centre level. They provided a limited INSET programme and had few resources to manage. In the SIP TACs the TAC tutors also worked mainly as advisers in schools. They had the added support of the professional officers (POs), who planned workshops in a co-ordinated programme and helped them to deliver INSET.

The Nepal Resource Person seemed to have a position more like the wardens in Britain, but they also had responsibility for training and a school advisory role. The centres in Nepal were found to be well run and to provide stimulating environments for the teachers, but the position of resource person did seem to be very demanding.

Providing adequate and appropriate training for teachers' centre wardens was identified as a problem in Britain (Weindling et al 1983). The wardens attended a range of courses, but generally found that meeting together to discuss problems and ideas most effectively supported their developments at the teachers' centre. Most of the co-ordinators and tutors in our study required training to develop managerial, training and mentoring skills. This training seemed to be particularly successful in Kenya where the SIP project not only encourages professional development for its officers, in the form of in-country post graduate award-bearing courses from institutions of Higher Education, but also requires the Programme Officers to meet together regularly with the project Director to share ideas and plan in an on-going way. These meetings appeared to contribute to the enthusiasm and commitment of the POs and they helped keep the workshop programme tuned to the needs of the teachers and children.

The essential role of teachers' centre co-ordinator or manager seems to have been an aspect of the model in Britain which has been difficult to replicate in other countries, particularly those with more rigid hierarchies. In many countries the personnel trying to run teachers' centres appear to lack the necessary level of status, training and the freedom and confidence to take initiative.

5.3 Facilities.

The facilities provided for teachers' centres also varied greatly. The centres in Nepal were purpose-built and had a number of rooms and functions. The stark contrast between these centres and the poor school facilities in Nepal was possibly contributing to lack of impact. In contrast to these centres, in Andhra Pradesh the meetings were mainly held in very basic facilities, usually in the best and biggest room in a school, but the teachers appeared to make the best of what was available. In Zambia the facilities were good, but under used because they were not always appropriate for the training programme. In Kenya the meetings were held in schools, in the case of the SIP TACs, a classroom improved for this purpose by the local community.

In the SIP programme, the level of community ownership in the TAC facilities appeared to be contributing to the success of the project. We found evidence of increased local interest in the work of the centres and the schools. The project hoped that the financial commitment to the TACs would help to sustain the work of the centres once the project funding ended.

The number of teachers' centre facilities in the primary projects leads us to wonder whether the respective governments would be able or willing to take over the funding required for meetings and centre maintenance once an externally funded project finished.

In each country, the apparent reliance on successive donor funded projects to keep the centres functioning lent support these doubts.

5.4 In-service Education.

It was impossible to fully analyse and evaluate the training provided by the centres during the short visits of our study, and we cannot claim to have done this. We can only comment on the activities that we observed. However, in most of the projects there seemed to be aspects of the training which affected, either aided or interfered with, impact on schools.

5.4.1 Focus of workshops and training courses.

The focus of the training was thought to influence the level of impact. The fact that little of the training observed related directly to the text books used in the schools was felt to be particularly relevant. The text book was the main resource that teachers had in the classroom. Nevertheless, in the cascade training in both Andhra Pradesh and in Zambia it was noted that the focus on theory and principles in the training largely ignored the need to consider application to text books and their effective use in promoting learning. The teacher was left to interpret and reconstruct for themselves, and more often than not they did not seem to do this.

An example of teachers' centres helping teachers to work with a new text book and teachers' guide was found in the RCs in Nepal. The centres distributed the books and provided a 3-4 day 'orientation' course which was very popular with the teachers. However, other courses in Nepal paid little attention to the text books. For example, the SEDUs provided a course to help secondary teachers become familiar with the new science equipment. After the course a number of teachers complained that it had not helped them to see how the equipment could be incorporated into the syllabus, how it related to activities in the textbooks or how it could be most effectively used in the classroom.

The teachers in all our case studies worked to an exam syllabus or a national curriculum which focused on content. It is therefore not really surprising that many teachers did not make the effort required to adopt new pedagogical approaches, particularly as the in-service training was generally not helping them to restructure existing practice nor did it appear to convince them that the effort of restructuring would be worthwhile.

The courses in Kenya were based on a needs analysis, but in the TRCs and in the TACs this analysis was directed at exam results rather than on what the teachers said they needed, wanted or lacked. The SIP TAC staff in Kenya were working with teachers to make their teaching more effective and there were obvious signs that this intervention was having an effect on the contributions of both learners and teachers. However, it was felt that tutors were trying to make improvements on too many fronts and that more could be gained by concentrating on a smaller number of locally agreed initiatives, with concomitant materials production.

5.4.2 Sphere of influence.

Impact on schools also seemed to depend on who the teachers' centre was targeting and whether the school had systems in place to receive and make use of the messages from the centres. The criteria for selecting participants for courses varied considerably. In Andhra Pradesh untrained teachers were present in large numbers in the schools but these teachers were not targeted by the project and so lacked any kind of training. In Nepal on the other hand, training for the untrained teachers was a priority. However, the limited impact on schools as a result of this training could partly be explained by established teachers, trained many years ago, not being open to innovations brought back by trainees. This seemed particularly likely if the innovations were in conflict with the established teachers' own tried and tested routines.

The impressive training at the TRCs in Nepal was thought to lack effect partly because it was targeting teachers as individuals, it failed to help the teachers to think about ways of sharing ideas with colleagues back at school. Lack of impact was also partly due to the schools having no systems in place in terms of subject panels or curriculum development meetings to receive and adapt the ideas brought back from courses at the centre.

The TAC workshops in Kenya target teachers from subject panels in schools and these teachers were supposed to go back to the school and cascade the training to the other members of the subject panel. It was not possible to assess the effectiveness of this approach. However, as concern for the effectiveness of INSET gathered pace in Britain in the 1980s, the problem of teachers not sharing ideas from courses with colleagues in school became an issue and staff focused INSET increased. Similarly the project in Zambia was increasingly side stepping the teachers' centre and taking the training directly to groups of teachers in schools. However, these groups did not consist of teachers with similar needs so the training remained rather general.

The most effective way of ensuring that what happened at the centre had an impact on teaching and learning appeared to be for the trainers to follow the teachers into the schools. It was not possible to tell whether the occasional visits of the TAC tutors in SPRED II would eventually be sufficient to have noticeable impact, however, our observations of the SIP project persuaded us of the effectiveness of this strategy.

5.5 Resources.

The wide range of resources and reprographic facilities made available at the teachers centres in Britain, combined with the freedom teachers had to select materials, gave teachers lots of reasons to visit a centre. In the projects we observed, resources did not have the same level of significance at the centres.

Teachers in Kenya appreciated the availability of resource books and library boxes at the centres because there were few libraries in the schools. However, the main resources at the TRCs were sets of books and readers related to the KSCE exam syllabus in English.

We have questioned whether a teachers' centre was necessary for the storage and supply of this type of books.

The facilities and resources at the TRCs in Zambia had not been integrated into the cascaded training programme and teachers made little use of them. The centres in Nepal distributed resources to the schools, but these were depressingly under used.

The only resources in most of the TACs in Kenya and in the Andhra Pradesh centres were those that the teachers produced. In Andhra Pradesh these were mainly replicas of teaching or learning materials that teachers had met during training courses. Except for a few notable exceptions, the teachers were not attempting to apply ideas encountered during courses to the making of materials for different contexts and purposes. The materials that teachers had made in Zambia were often displayed at the centre rather than being used in schools. The only materials developed at a centre which appeared to be really having an impact on schools were the materials made during the workshops at the SIP TACs. These materials had direct application for the work in progress at the schools.

It seemed that schools were generally so badly resourced that for some time to come the resource that really influenced teaching was the text book. Ideally it was felt that the donor aided projects should strive to improve the quality and relevance of the textbooks in particular by making sure the books supported any principles or skills being targeted by the training. This had been a successful strategy in the much quoted New School project in Colombia (Wolf et al 1994). If text book renewal was not possible, then at least the teachers' centres could try to ensure that adequate copies of the current text book and the teachers' books were available and that the workshops at the teachers' centre helped teachers to develop more effective ways of using the text books that were available.

5.6 Accessibility

In all the projects the accessibility of the centres seemed an important factor in their use. For many teachers in Zambia and Kenya the TRCs were inaccessible. It was felt that a centre needed to be within 5km of a teacher's home or school for teachers to consider using it and even then most teachers needed to be encouraged to 'drop-in'. There seemed to be more hope of teachers' centres being effective in densely populated areas.

5.7 Attitude

One strikingly similar finding in both Britain and in our case studies was that teachers were generally very positive about teachers' centres. Although in Zambia teachers rarely attended the centre and hardly ever used it to drop-in for help or access to resources, there was still the feeling that teachers' centres were a good thing. Teachers in Kenya were convinced that they had changed as a result of the TAC tutor's work with them. However, there was no observable difference in their practice or in their classrooms. In Andhra Pradesh teachers liked the meetings, but could not say how these affected their work in schools and some even said that they did not often try to apply the principles because this involved too much work. In Nepal teachers found the courses interesting, awareness was raised, but practise largely seemed to remain unchanged.

6 Observations made in schools

It was not easy to interpret what we saw in schools in terms of what was seen at the teachers' centre. There seemed to be a separation, operationally and conceptually, between what teachers did at the teachers' centre and what they did in the classroom. We partly attributed this to the many other constraints and influences the teachers had to work with in schools. While we also recognise that our presence in classrooms made it likely that teachers would not teach in their normal way, and that it is possible that the teachers we were observing may not have had time to try to integrate new ideas into their teaching, in general, we found very little evidence of teaching and learning having changed as a result of work at the teachers' centres.

6.1 Conditions in Schools.

One major obstacle to teachers implementing ideas which they had met at the teachers centre could well have been the conditions in which they worked. The literature on improving the quality of schools in developing countries suggests that the conditions in many schools and classrooms make it unlikely that teachers would be able to apply new approaches encountered during training outside of the schools (Lockheed et al 1991, Levin &Lockhead 1993). In many ways our study supports this view.

The school facilities in Nepal and Andhra Pradesh were very poor. In Andhra Pradesh, besides there being no furniture, water, toilets or electricity, there were insufficient classrooms. The children had little space on the floor and when it rained the classes being taught outside were sent home. In Nepal, in contrast to the teachers' centre which was often on the same site as a school, the classrooms were cramped, uncared for, and not at all stimulating.

In Kenya and Zambia, the fabric of the schools was better, but there were clearly other limitations on what happened in the classroom. Zambian urban schools could not cope with the number of children so there were two or three shifts each day. Private schools often used the same facilities in the evening and, because of low levels of pay, teachers were keen to teach in both systems. In rural schools there was a large number of untrained teachers. Facilities varied and in some schools classes were very large, in one instance a school had a class of 80 children because a classroom was being used as a resource centre. In Kenya it was difficult to try to trace evidence of training in schools because both INSET courses and schools had been disrupted by political unrest surrounding a general election.

We found impressive schools in other countries, but only in the SIP schools in Kenya was the obvious pride in the school environment so noticeable. The community were helping to extend and maintain the facilities and, according to one headteacher, the staff competed to have the most attractive classroom.

Considering the pedagogical aims of the various projects in our study countries, which stressed the use of group work, activity based learning and the use of teaching aids, it is not really surprising that teachers found these ideas difficult to implement in the cramped and under resourced environments in which they worked. In addition, during the training, the teachers were often not helped to consider how new methods and principles could be applied in their particular teaching situation.

6.2 Evidence of impact

We looked for evidence of impact from the work at the teachers' centre in terms of what happened in the classroom and which resources were being used in the school. We also looked for the specific messages and resources being targeted by the recent training at the teachers' centre.

6.2.1 Impact on schools

Evidence to indicate that the teachers' centre had been effective in improving the quality of education in schools was very difficult to find. In Zambia the project was obviously influencing the way teachers worked together in schools. Whilst the Teacher Groups for the cascade training were not leading to much impact on practice, the subject based Working Groups which had recently begun to function did seem to be having noticeable effects, mainly because the meetings had immediate relevance to what was happening in the school. However, there was little direct evidence of the teachers' centre being instrumental in these changes at school level.

In contrast, in both Nepal and Andhra Pradesh there was little evidence of teachers working together in the schools. Although teachers planned together for model lessons in the meetings in Andhra Pradesh, there was no evidence of teachers planning together or making materials outside of these meetings. In Nepal, there was no management structure for planning and implementing curriculum across the school. There were no subject co-ordinators and the text book was the sole curriculum guide, and as the teachers' centres treated teachers as individuals there was no guidance on how their training could be used to help the teaching in the school.

6.2.2 Impact on what happened in classrooms.

Teaching and learning in the classrooms mainly followed the traditional approach of teacher talk, questioning and chorus response. The focus was on transmitting content. There was little observable transfer of the pedagogic messages relating to active learning, discovery methods, group interaction, or differentiated tasks being advocated at the teachers' centres. Exceptions in individual classrooms in Nepal, Andhra Pradesh and Zambia did suggest that teachers should have been able to transfer ideas from the training. However, as neither the text books nor the exams rewarded teachers for using such approaches it is not really surprising that the training had achieved little change in most teachers' practice.

In Zambia and Andhra Pradesh, where particular skills or principles were the main focus of INSET, there was some evidence of transfer from the training sessions. However, the transfer seemed to be mainly at a superficial level of technique. A number of instances were observed in which ideas from the training were being used inappropriately, which suggested the teachers had not really understood the underlying principles. Teachers seemed to find group work particularly difficult to use effectively so that even when children were arranged in groups they were generally taught as a whole class. Examples of teacher-led innovation were rare.

In contrast to the problems with new approaches, some of the traditional teaching was effective and seemed like a sensible reaction to the situation in which the teachers found themselves. Harvey (1998) mentions similar findings. Helping teachers to make the best of their traditional practice, and the resources easily available in their present circumstances, seemed to be more useful than expecting teachers to take on completely new pedagogy in circumstances which did not yet offer them the necessary support from resources like text books.

While it was necessary to search for evidence of impact in the schools in other projects, in the SIP project in Kenya there seemed to be evidence of impact at every level; from the SIP TAC management committee to the head and deputy and into the classroom. The enthusiasm and involvement of staff, pupils and members of the community was impressive. We saw many examples of transfer of ideas from the workshops at the teachers' centre to the classrooms.

6.2.3 Impact on the availability and use of resources.

Text books and the blackboard were the major resources in the classroom. The text books were mainly supplied by the government, but the necessary books were not always available. A range of textbooks was being introduced in Zambia, which allowed schools some choice. The Teachers' centres could have jumped at the opportunity to display these books, as the centres did in Britain. Workshops could have helped teachers to select the most appropriate books for their context and to work out the best way of using them in the classroom, but so far they had not adopted this supportive role. The TRCs in Kenya were helping teachers by providing class sets of readers and box-libraries.

In several of the schools, potentially useful resources were available, but teachers were not making use of them. Science equipment in Nepal was locked away in cupboards or not even unpacked. In Zambia we saw atlases and other materials in the staffroom, but no evidence of teachers using these when they would clearly have been useful. In Andhra Pradesh, teacher-made materials were displayed on the walls, but did not seem to have any purpose, while materials made in schools in Zambia were displayed at the teachers' centre rather than contributing to teaching and learning.

Although increasing the resources for teaching and learning was one of the main purposes of many of the teachers' centres in our study, there was little evidence in the schools to suggest that this aim was being achieved.

6.3 Support For Schools.

In three of our case studies, the staff at the teachers' centres also had a role in schools. The Resource Person from the primary resource centres in Nepal should have been spending lot of time in schools, but the effectiveness of their work was limited. Besides the very real practical problems, they did not have a clear role in schools. Also, because there was no focused plan to develop skills or content, the advice they gave was not necessarily very useful. They tended to just observe individual teachers who had attended course and comment on their lesson. There appeared to be no system of helping teachers to plan for future teaching and no involvement with other teachers who were teaching the same subject. The resource person did not appear to concern themselves with the quality of education in the school.

The newest phases of DPEP in Andhra Pradesh and SPRED II in Kenya have school follow-up. It is too early to judge the effectiveness of this strategy, but the huge numbers of schools and teachers involved and the distances between schools and the centres make it doubtful that this support could be very effective. Establishing a rolling programme of targeted schools, as the SIP programme has in Kenya, may make better use of the expertise available.

The project in Zambia was increasingly targeting teachers in school. Although this did not involve the teachers' centre in any way as yet, the formation of Teachers Groups in the school seemed to be having an effect on school policy and on what happened in the classroom. The staff from the teachers' centre could usefully lend their expertise to the groups in the future.

When teachers went to the centre to attend a course during school hours, there was rarely anyone to cover their classes. Therefore, a disadvantage of teachers going away from the school for training was that this added to the widespread problem of teacher absenteeism. Working with teachers in the schools might also be a way of ensuring that the children have a teacher in the classroom.

In the light of previous studies (Harvey 1998, Kinder & Harland 1991) and our observations in schools, it did not seem sufficient that staff from teachers' centres only visited teachers as a follow-up to courses. The apparent success of the SIP project suggests that for real impact, long term, intensive input is necessary, whereby sympathetic and dedicated experts have clear roles and work intensively with groups of teachers. This is a high cost, slow, labour intensive strategy, but if it brings about the desired increase in quality of education it may be money well spent.

7 Conclusions and Recommendations

According to any of the criteria used in our studies regarding impact on schools, teachers' centres alone did not appear to be an effective strategy for improving the quality of teaching and learning in the classroom. Neither did they make a noticeable difference to the availability and use of teaching and learning materials in the classroom.

The SIP project in Kenya, which seemed to be achieving the most success, supported the teachers' centre with a number of other initiatives. The trained and supported staff, the community involvement and the long term, intensive work in individual schools all appeared to contribute to the level of impact on teachers and schools. Maintaining the momentum of change once the donor funding is withdrawn will be a challenge for both the staff at the teachers' centre and in the schools. The relative collapse of the SIP programme in Kisumu points to the pitfalls for the Mombasa SIP project once the level of financial support is reduced.

7.1 Other indicators of effectiveness.

Although we found little evidence of direct impact on classroom we did find that effectiveness could be interpreted in a number of other ways.

- The presence of teachers' centres as much as their use seemed to improve morale to some extent and give teachers a feeling of status. They allowed teachers, and to an extent the community, to feel part of and contribute to the energy of the project.

- Established schedules for meetings did provide regular opportunities for professional interchange and as such could be seen as an important prerequisite for the development of a professional culture. At the moment this culture is mainly being shaped by the donor driven projects but for the future, self steering strategies would need to be encouraged.

- Courses at the teachers' centre appeared to begin the process of change in teachers by raising awareness and providing ideas and materials to replicate. Studies which have looked at achieving change in teacher's practice suggest that this level of change is necessary before other strategies could help the teacher to develop deeper professional understanding and innovative practice (de Feiter et al 1995 cited in Harvey 1997:109, Harvey 1997, Joyce & Showers 1980, Kinder & Harland 1991). The teachers' centre would thus need to be recognised as a useful intervention, but one with a limited purpose.

- The in-service trainers and the staff working in the centres benefited from the opportunities available in terms of increased knowledge about teaching and increased skill in working with teachers. Hence there were significant changes in the formal education system for teachers, particularly in terms of the teacher training curriculum. The focus and relevance of this curriculum was clearly becoming more finely tuned to teachers' needs.

- Where teachers' centres had involved the community there was an awareness in that community that things were changing in education and consequently expectations may have been raised.

7.2 Conditions which may help teachers' centres to impact on teaching.

As a result of our research, we feel that there are a number of conditions which need to exist in the schools and at the teachers' centre if centres are to have more impact on what happens in schools.

7.2.1 In schools, the environment and the systems operating seemed to be fairly critical factors in determining whether messages from the TRCs had any effect on teaching or learning.

i. While it was not possible to say that teachers' centres are more effective if conditions in schools are conducive to learning, conditions in many of the schools were very poor and the teachers' centre needs to face up to this reality. The physical condition of schools and classrooms and the number of children in a class often did not help the teacher to implement ideas from the teachers' centre. The centres in turn did not seem to be helping the teacher to confront the conditions by helping them to find solutions to their problems.

ii. Teachers needed to be helped to implement innovations. This needed to be done in a number of ways. Management of any innovation was necessary at school level before it seemed to be effective. It seemed to help if mechanisms, such as subject panels, were in place to receive ideas from the teachers' centre. A headteacher with a positive attitude to professional development, enthusiasm, commitment and active involvement in the activities of the school, and who showed appreciation for the efforts of staff and children, was found to be influential in achieving changes in classroom practice. Working as a staff seemed to be motivating for teachers, while on-going support for a group of teachers from a sympathetic adviser seemed to be particularly effective.

iii. Teachers needed the support of basic resources, in particular the support of appropriate text books. Help with coherent forward-looking planning, rather than for particular one-off lessons or problem areas, seemed to be particularly helpful for teachers as they adapted to new approaches. However, restructuring new ideas to match established text books and exam syllabuses was very difficult. The benefits for the teacher and learner of text books, teachers' books and exams which matched and supported the messages from the teachers' centre were noted, but situations where this was found to happen were rare.

iv. Teachers needed to be encouraged to develop or create solutions to local pedagogical problems in their own schools. The teachers' workshops in Zambia appeared to be a successful way of empowering teachers.

v. It was felt that by working intensively to change conditions in a limited number of schools, and by encouraging teachers to take responsibility for running meetings and workshops, it might be possible to help these schools to become self-sustaining centres of innovative practice. Targeted schools could in turn become model schools for others to learn from.

7.2.2 At the teachers' centre, it was felt that teachers need more than just traditional courses with a focus on theory and principles and access to a limited range of resources.

i. Enthusiasm and commitment were essential at every level. The components of this commitment include the centres receiving adequate and reliable financial and material support and appropriate levels of expertise. They also include recognition of the efforts of tutors and all those involved in the work of the teachers' centre and recognition by tutors of what teachers and headteachers are trying to achieve in schools.

ii. A major condition for impact at school level seemed to be that courses needed to help teachers with their day to day teaching. In particular they needed to help teachers to develop more effective ways of using the limited resources they have in the conditions in which they work. It was felt that if input was subject specific, or text book and teachers' guide related, there could be an on-going continuum into which the gradual development of new skills, methods and content could be integrated.

iii. Where new approaches were considered appropriate and relevant it was felt that courses needed to begin with where the teachers were rather than with an end view of what 'good practice' involves. It was felt that donor-driven projects with predetermined agendas were often trying to achieve too much through cascaded training courses in too short a time. Workshops which presented new ideas in ways that related to the teachers normal practice and gave suggestions for ways of moving on in small incremental steps were felt to have more chance of impacting on schools than sessions which required the teacher to make radical changes in their practice.

iv. However, it was felt that rather than importing ideas of good practice from elsewhere it might be more effective to identify the good practice which does already exist in the schools and devise training to build on this.

v. Teachers' centre staff needed to have a clear role in the schools they served. The projects were increasingly recognising the effectiveness of directing inputs towards schools rather than at individual teachers. However, the logistics of teachers' centre staff getting to the schools and working effectively with the large numbers of teachers involved considerably limited what could be achieved. As there was rarely an adequate number of appropriate staff for this very demanding job, the slower process of advisors spending more time in fewer schools as part of a rolling programme could achieve more tangible results.

vi. The teachers' centre needed to have more autonomy and freedom to respond to needs and changing demands. There was a feeling that neither the teachers' centre staff nor the teachers were being empowered to initiate change and seize opportunities. Project aims and time constraints dominated the work of the centres. Cascade approaches to training encouraged dependency on centralised initiatives and marginalised initiatives at the teachers' centre level. With the exception of the SIP TACs in Kenya, teachers' centres were not able to respond to the changing needs of their teachers. Encouraging local level involvement in the running and ownership of the centre was thought to be beneficial and to increase the likelihood of the centre continuing to function when donor support ended.

vii. The staff at the centres needed to have adequate training specifically for their work with teachers, not just for the purposes of a cascade. They also needed to have status as experienced and successful practitioners and a level of independence so that they were not perceived as part of the inspection service. The practice of personnel from a number of centres meeting regulary to discuss their work was a strategy which appeared to encourage initiative and the development of activities at the centre.

viii. Expectations for materials production at the centre needed to be more realistic. Facilities for making materials were underused and impact from teacher made materials was difficult to find. While exceptions were identified in a number of schools, few teachers are sufficiently able or motivated to spend time producing effective teaching materials. It was felt that teachers could be helped to produce low cost, relevant teaching resources which matched an obvious need. It was also felt that more could be done to identify and exploit creative and imaginative teachers who had the ideas, talent and skills required to develop materials for local use.

ix. The centres needed to be easily accessible for teachers. Centres were rarely used as drop-in facilities. The distances and expense involved in getting to the centres and the restricted opening times were mainly blamed for this. It was felt that centres were particularly useful in urban areas where schools and teachers' homes were no more than 3-5 kms from the centre. Trying to serve schools any further away than this was found to be very difficult so it was felt that other strategies might be more effective where schools were more dispersed.

7.3 Each case-study review concluded that teachers' centres were only one strategy for teacher development and that in many ways they had limited effectiveness. There seemed little chance of the teachers' centres we looked at continuing to function in their present form without the financial support and the flow of professional ideas being provided by successive international donors.

It was felt that a more flexible approach needed to be taken when selecting strategies for school improvement, with careful consideration of the context, the needs of the teachers and their schools and the sustainability of any intervention. A number of other strategies are discussed in the main report and a number of alternative roles for teachers' centres are suggested.

CHAPTER ONE

Purpose and Methodology of the Study

Gary Knamiller

1.0 Purpose of the Study

A major aim of this study is to attempt to assess the effectiveness of teacher resource centres (TRCs) as a strategy in helping to improve the quality of education in schools in developing countries; the purpose being to assist policy makers in deciding whether or not to invest in teacher resource centres as part of new education development projects. In this sense the study is meant to be a summative evaluation.

But, it is meant to be formative as well. We are very conscious of the fact that there are quite literally thousands of TRCs in existence around the developing world and thousands more are being considered in new development plans. The question is not simply whether to leave TRCs in or out of development plans or to close or leave open existing ones, but how they might become more productive. There is no such thing as a 'model' teacher resource centre. Set in many different contexts, TRCs come in many different forms, some more effective overall than others, some with particularly promising and/or unpromising features. A major function of the study, therefore, is to highlight possibilities for improving existing TRCs and to offer caution for what to avoid on new projects.

2.0 Research Questions

2.1 Summative evaluation

The basic question that drives the summative evaluation side of the study is,

'To what extent do TRCs help to improve the environment for learning in schools and the quality of teaching and learning in classrooms?'

This question is based on the ultimate goal of TRCs - to impact positively on classroom practice. There are other 'outcomes' that can be considered. Getting additional resources into schools, raising the level of awareness of new methods and materials, increasing levels of knowledge and skills which underpin curriculum and pedagogy, generating motivation and positive attitudes are among the potential outcomes of TRC programmes and activities. These, however, are outcomes which may or may not result in improved teaching and learning. We note them when we see them, and recognize that perhaps in the long run they may yield dividends. But, in this study our central focus is the classroom, i.e. the resources and teacher behaviours that appear to be in practice as a result of the work of the local TRC.

Subsidiary Summative Research Questions

Research questions subsidiary to the basic *summative* research question fall into two areas: (1) resources and materials and (2) school management and pedagogy.

(1) Resources and materials
To what extent does the TRCs make any significant contribution to improved resources for teaching and learning in schools - qualitative and/or quantitative?

(a) To what extent does the TRCs stimulate the creation and development of learning materials by teachers, pupils, anybody?

(b) To what extent does the TRCs play a significant role in the distribution of resources to schools?

(c) Are there other bodies supplying resources to schools and are they doing so effectively and efficiently?

(2) School management and pedagogical messages
To what extent are the methods put forward in TRCs courses and activities in regard to school management and classroom pedagogy being transferred to schools and classrooms?

(a) To what extent are schools incorporating suggested management strategies into their operations? (e.g. a new system of recording attendance; setting up a programme of demonstration teaching, establishing subject curriculum groups)

(b) To what extent are teachers incorporating suggested pedagogical methods into their teaching repertoire? (e.g. paired work in oral drills, use of number lines and other subject related methods; classroom management, blackboard skills, higher order questioning and other general pedagogical methods)

(c) To what extent are students becoming a part of these initiatives? (e.g. doing worksheets produced at TRCs; doing a science or social studies investigation; using textbooks as a resource for analyzing issues and problem solving.)

2.2 Formative evaluation

The study also attempts to examine possible reasons for success and failure of TRCs. The basic formative questions are,

'What are the issues surrounding TRCs; how are TRCs affected by them; and how do they react to them?'

Here we are looking for constraints, and indeed positive influences, that impose upon TRCs in attempting to achieve intended aims. Some influences are external to the TRCs. They are embodied in the culture, in the education system, in the conditions in schools. Others arise in relation to the particular project of which the TRC is a part, for example, the place of the TRC in a cascade system of in-service training. And, there are features within the TRC itself that bear on its effectiveness, for example, its management patterns and personality of its staff.

Certain major issues affecting the orientation and operation of TRCs began to emerge in the literature review. They were refined and the list added to during the course of our field studies. We offer them here as research questions in order to prime readers for the discussion to come. [The order of presenting them does not reflect priority.]

Subsidiary Formative Research Questions

- Relevance: How relevant is the content and methodologies embodied in the work of TRCs, through courses and activities, to existing realities in schools, e.g. facilities in schools and classrooms, the way teachers presently teach and underlying philosophies, factors affecting teachers and children outside of school and so on?
- Resource base: To what extent are resource inputs into TRCs programmes sufficient for meeting programme goals and expectations?
- In-service training: How do TRCs fit into the wider strategy of in-service teacher training, and to what extent do they play a useful, strategic role in the effective implementation of in-service programmes? For example, how do TRCs fit into such delivery models as institutional based in-service training; cascade systems; school-based training?
- Decentralization: What is the place of TRCs within a policy of decentralization?
- Sustainability: To what extent are TRCs sustainable after the life of the project that set them up? Does self-financing seem possible and desirable?

3.0 Research Procedure

3.1 Definition of terms

The first, and as it turned out continuing task of the study, was to define the terms incorporated in the title of the research exercise: *'Research into the Effectiveness of Teacher Resource Centre Strategy'*. The following operational definitions are given:

Teacher resource centre - a place where teachers meet and where resources for teaching and learning are held. From a process point of view, 'TRCs are essentially strategies to provide professional services to teachers to enable them to perform effectively in their classrooms.' (MS/DANIDA, 1996)

Strategy - the use of TRCs as a dissemination service for transferring management and pedagogical ideas and/or resources and materials into schools. It can do this by transferring resources, curriculum and pedagogy from central agencies to teachers and schools; and/or by providing an environment for teachers to come together to discuss, to create teaching and learning materials, to attempt to solve their teaching problems.

Effectiveness - school management and pedagogical messages and/or teaching and learning materials, traceable back to TRCs, are found operating in schools. The greater the number of such incidences found in schools the greater the effectiveness of the TRC in impacting on schools. We are talking here about teacher behaviour and management behaviour traceable back to the TRCs. Where there is evidence of pupils engaging activities that their teachers brought back from TRC programmes, that indicates high effectiveness indeed. (Please note that effectiveness in these terms can be looked at in two ways. First, is there evidence that messages and resources have transferred from the TRC to the school and classroom, without consideration of the quality of these messages or even the quality of their implementation. This is simply a measure of the effectiveness of TRCs to disseminate methods and resources. Secondly one also could attempt to judge effectiveness in terms of the *quality* of the messages and resources traceable to the TRC and the quality of implementation in schools and classrooms as well. In this study we have considered both.)

Quality teaching and learning * - teacher centred instructional strategies which lead to children actively engaging the subject matter the teacher presents. In this sense 'quality' includes:

- a *systematic, logical sequence* of presentation and children's practice (both guided and independent practice) in single lessons and in units of work over time.

- a *variety* of strategies and engagements from having children listen and chorus, copy and memorize, to having them write stories and essays and perform oral compositions; from having children practice algorithms over and over again to having them make up their own problems; from having children label diagrams, write out definitions and learn to spell terms correctly, to having them draw their own diagrams from direct observation, answer the questions and problems at the end of chapters, observe a phenomena and ask a 'What will happen if...?' question.

- a systematic approach to *checking children's work* and *providing feedback*

(* We include a definition of 'quality', as, although not explicitly included in the research title, it clearly is implied.)

3.2 Literature review

The literature review was an on-going process throughout the life of the project, from August 1996 through July 1998.

The first purpose of the literature review was to describe TRCs in Britain, from their emergence in the 1970's to its present role in England and Wales in the implementation of

'Literacy Hour'. In addition, the review attempted to identify major issues surrounding the intentions, organisation, activities and evaluation of TRCs in the UK. These issues helped the research team to establish a set of 'cues' as to what to look for in case studies. It helped to lay out the research questions and to develop the research instruments.

The second purpose of the literature review was to trace the movement of the British TRC concept abroad to the developing world. Again, we looked not only for descriptions of particular TRC development, but for the issues surrounding them. These, too, were feed into the development of our research questions and study instruments.

And finally, the literature review was to help us to interpret and analyse what we found in the field studies.

3.3 Case Studies

The field work was done in 5 countries: Botswana, Kenya and Zambia in Africa and India and Nepal in Asia. These countries were chosen because they have ongoing, British assisted educational development programmes which include teacher resource centres: SPRED I and II in Kenya; AIEMS in Zambia; SEP in Nepal. Although Britain's assistance to the APPEP project in Andhra Pradesh; India, ended in 1996, its TRC programme continues to operate under the new DPEP project. A visit was made to Botswana early in the research project in order to trial and further develop our research instruments. For this reason Botswana was not included in the case studies.

Another reason for choosing these 5 countries was because of the considerable working knowledge each of us on the team of five from the University of Leeds School of Education had of our particular target country. Also, we were able to employ host country colleagues with whom we have had long professional relationships to form country specific teams.

These teams did the field work in their respective countries over two, 2-week periods; four weeks in all. The two study visits were separated by 3 to 5 months depending on the circumstances particular to each country. In the interim periods between visits from Leeds host country colleagues continued to carry forward the work on their own.

It must be noted that each team evolved its own programme of research. Common research instruments (discussed below) were drafted in Leeds, trialed in Botswana and sent to host country colleagues for comment before field studies began. Nevertheless, the methodologies and procedures adopted for each country were determined by its respective team, on the basis of 'opportunity'. There is no attempt in this study, therefore, to aggregate or composite data from all countries or to compare countries. Rather, each country presents its own report; describing, interpreting and analyzing its own findings. In the final chapters we try to bring forward common issues, tease out 'best solutions' from our countries and reflect on the institution of teacher resource centres as a strategy for impacting on the quality of teaching and learning in schools in developing countries.

3.4 Research instruments

As mentioned above the development of our research instruments were informed by the literature review of TRCs in Britain and in developing countries. Initial drafts were trialed in Botswana. These were subsequently revised and sent to our host country colleagues for comment.

The set of instruments, with reference to gathering information from relevant documents and interviews, included the following:

TRC Research Instruments

- Central administration - including relevant ministry of education officials and technical assistance personnel from donor projects

- Teacher resource centres:

1. basic information - physical site, catchment area, services
2. management of TRCs
3. descriptions of TRCs activities - courses, seminars/workshops, committee meetings, including observations of on-going sessions
4. resources at TRCs and resources available to schools
5. interview with head of centre, management committee, course trainers and other personnel auxiliary to the operation of the centre
6. interview with participants attending TRCs courses and activities

- Schools

1. basic information - description of school, teachers, pupils
2. observation of the conditions for teaching and learning at the school
3. lesson observation schedule
4. interview with headteacher
5. interviews with teachers

3.4.1 The 'tracer' study

Applying a *tracer* technique we attempted to establish if the ideas and materials available to teachers through the activities and services of teachers' centres are actually being implemented in schools and classrooms. In other words, 'Is there any observable evidence in the school and/or classroom that 'messages' and 'resources' from in-service programmes are being implemented?'

'Messages' can be of two sorts:

(1) *Particular materials and/or ideas that have been explicitly emphasised in training.* For example, teachers at an in-service course at a TRC are asked to express their individual feelings through a drawing and a few sentences in response to a poem read by the trainer, which are then displayed on a wall in the centre. Do we see similarly children's drawings and writings displayed in classrooms or even in their exercise books? Perhaps teachers at the centre make small pan-balances, like the ones used on market stalls, to weigh vegetables, and develop a set of maths and science activities to do with the balances. Do we similarly see pan-balances and children using them in the classroom, or evidence from exercise books that they had? Do we see equipment distributed through the TRCs and/or teaching and learning aids made at the TRCs by teachers in schools and classrooms?

(2) *Conditions for learning in schools that are implied in stated aims and objectives of TRCs.* These may be iterated in in-service courses or perhaps as indirect messages at the centre, through charts and slogans displayed about. Obviously these kinds of 'messages' are less concrete, and their identification in schools is a bit of a subjective exercise. Here is an example related to the aims for TRCs that come from the Regional Workshop on Teacher's Resource Centres in Arusha, 1996:

> *"...teachers need to be able to adapt the curricula to local situations... TRCs provide opportunities to discuss national curricular goals, to translate these into relevant learning experiences and to develop the necessary instructional materials... TRCs .provide systematic access to modern teaching techniques, new ideas and updated teaching and learning materials"*

To 'trace' the implication of these statements of purpose we have to ask the following questions:

- Is there any evidence *at the TRC* of teachers being exposed to and/or producing activities and materials related to the local context?
- Is there any evidence of such activities and materials *in schools and classrooms?*
- Is there any evidence that, indeed, *children are being engaged* in these activities and materials?

We instructed our country teams that there are two major concerns in regards to the 'tracer' strategy:

(1) It may be difficult to tell if particular 'innovations' come from in-service work at TRCs or from some other in-service programmes or indeed from initial teacher training. Obviously the thing to do is to ask the teacher(s) where they got the idea, noting, of course, that they may or may not be able to trace it back themselves. Also, if such materials/ideas are not in evidence in schools we need to ask why they are not being used.

(2) We must keep in mind that we are also in the business of assessing the 'conditions for learning' that exist in schools. This is an attempt to identify what materials and techniques might enhance learning given the local context. We do this in order to suggest possible content for TRC workshops.

Finally, it goes without saying that each country will be different. A great degree of adaptability in the use of the 'tracer' strategy will have to be made. It also goes without saying that finding nothing traceable at TRCs, or finding nothing in schools that can be traced back to TRCs are extremely important observations to record.

CHAPTER TWO

The British Teachers' Centre - Its Rise and Fall : A Review of the Literature

Genevieve Fairhurst

1.1 The Beginnings Of The Movement.

In the late 1950s and early 1960s, the first Teachers' Centres in Britain were established. They began in response to particular developments at that time in school curriculae and in teacher training. The post-experience education of teachers, which had previously been the province of university education departments and colleges of education, began to expand and to diversify. Thornbury (1973) suggested one reason for this was that, after the war, traditional training institutions were more concerned to make education a 'respectable academic subject' than to address the real needs of classroom teachers. At the same time, the increasing initiatives in curriculum innovation required the direct involvement of teachers (op.cit). The main impetus behind many of the first centres were the Nuffield Foundation's Science and Maths projects. Gough (1975:11) identifies these projects as the 'catalyst for the tremendous growth in centres in the mid sixties'. He points out that 'one of the conditions for becoming a pilot area for the Junior Science and Mathematics projects' was that 'there should be a teachers' centre established' (ibid). Initially these single subject centres were used to disseminate project materials, and to coordinate teacher's comments and criticisms of these, based upon trials in schools.

A number of other developments in education were happening at this time. There were major changes in the education system and thus in the demands made on teachers and the school curriculum; changes which made curriculum reform essential. Thornbury (1973:50) makes the point that 'the beginnings of the end of the 11 plus was leaving teachers with the feeling that much of the old stuff was obsolete and unintelligible'. He suggests that teachers wanted to teach something more 'relevant and palatable' but were unsure about what this ought to be. The introduction of CSE exams with their element of Teacher input was also noted by Thornbury (ibid) as an impetus to find somewhere for teachers to meet and develop ideas. Weindling et al (1983:23) point out that teachers' centres were in a large part 'a response or reflection to' these far reaching changes affecting the education service at the time.

A growing interest in curriculum and professional development was identified by Morant (1978) as the driving force behind the founding of the Schools Council. In response to the raising of the school leaving age (ROSLA) in 1965, The Council in its second Working Paper, Working Paper 2, suggested the idea of founding centres where teachers could meet and look at the problems and implications and discuss strategies for ROSLA. They began to recommend the formation of centres to each local education authority. Gough (1975:11) notes that between 1964 and 1974 teachers' centres increased 'from a handful to something over 600'. Curriculum development was the function the Schools Council clearly had in mind for these centres. In Working Paper 10 (1967), in which Weindling et al (1983:27) say The Council threw its 'considerable weight behind the idea of local curriculum development and the need for centres where teachers could meet', The Council explains its belief that part of its role was to make suggestions about how centres could best support local curriculum development groups. The hope is expressed that ' teachers will, more and more, meet in groups to discuss curriculum problems and that local education authorities will do all that is practicable to encourage such groups'.

At this stage The Council began to move away from the practice of looking at isolated subjects in specialist centres and moved towards the idea of addressing curriculum development generally in multi-purpose development centres (Gough 1975). They established a framework for such centres, the suggested professional aim being to enable studies by local teachers, possibly assisted by outside experts, of particular curricular areas and leading to the preparation of new course materials. Thornbury (1973) makes the point that their emphasis in such working groups was on the practical and realistic rather than the radical or ambitious. He also suggests that involvement in such groups gave teachers the feeling of being 'an expert in a small area' which he felt 'compensated for their lack of clear professional identity'.

The priorities and directions taken by these early centres reflected the orthodoxy in education at the time. There was a climate of freedom. Schools, and to some extent teachers, were allowed a considerable amount of autonomy over curriculum content and classroom practice. A mood of 'professional confidence' was noted by Thornbury (1973). This professionalism was an ill defined attribute, it implied the teacher had the skills to cope with a high level of decision making in the classroom. It embraced a wide and diffuse range of roles. However, when the School Council was established in 1964 with the purpose of preparing curriculum materials for the classroom it was stressed in the constitution that 'Teachers should be completely free to choose for themselves in curriculum matters,' and that any publications The Council produced 'would carry no authority' (cited in Thornbury op.cit p.12).

1.2 A Centre For Curriculum Development.

1.2.1 Local groups

Weindling et al (1983: 9) in his 1979-81 survey found that the most common type of group found at the teachers' centres consisted of discussion groups for local teachers with similar curricular interests. The Plowden Report (vol 1:359) gives its blessing to the idea of local teachers meeting together and suggests the benefit to teachers of opportunities 'to meet others who are a little ahead of themselves but whose practice is within their reach' (a condition for successful learning which is mentioned throughout the literature on achieving change in teaching). In a survey of wardens McKeegan (1974, cited in Gough 1975:13) found that teachers' centre wardens 'saw themselves involved in curriculum development that was school based or individual teacher based, rather than involved in dissemination or modification of national projects - and preferred it that way'.

These local groups were set up in a variety of ways, sometimes by the teachers themselves, or by particular advisers or sometimes by subject associations. According to Weindling et al (1983), it became common for LEAs to produce sets of curriculum guidelines for their schools. The ideas for these were generated in the curriculum groups and then collated and edited by the advisory service. Each authority targeted the curricular subjects in different ways and most just issued the guidelines as LEA policy. There was little time and energy devoted to a dissemination stage, during which time teachers might develop the skills to use the ideas presented. Weindling et al (ibid.) found that some of the schools in his sample felt overwhelmed by this sudden deluge of papers. One strategy to cope with it was to delegate teachers to certain curriculum areas and make them responsible for reporting back to the staff on the contents and implications of the guidelines. However, there was no prescribed or even widely agreed way for schools to make use of these documents.

1.2.2 Materials development.

The other type of group had a more ambitious intent. Their aim was to produce curriculum material for use in classrooms. It was found that this type of group required considerably more time and commitment from the teacher. Weindling et al (1983) found the work typically progressed through a number of stages: extensive discussion to define the task; delegation of different topics to different individuals or groups; thorough investigation often involving meetings with experts, visits, courses and exploration of existing materials; drafting by individuals; trialing; critical analysis by the group; editing by selected individuals and finally production. Weindling et al explain that in some cases the groups were also then involved in disseminating the material (op.cit). This was done in a range of ways including teaching packs distributed to schools, short courses, conferences or exhibitions.

Weindling et al suggested that the quality of the materials these groups produced varied considerably (1983). Much of the work was done in teachers' own time, which obviously slowed the process down. However, some authorities found it was more effective to second teachers in the final stages so that they could concentrate on production of the final copy. Quality also varied according to the back-up facilities the centre was able to provide and this improved with time. Eventually some centres were producing materials of impressive quality and the process was seen as a very cost effective way of getting materials into the classroom (Weindling et al 1983). Weindling et al quote a similar study of curriculum material groups in America, in which McLaughlin (1976) claims that this process is also very good for a group member's sense of professionalism. They suggest that 'reinventing the wheel', which much of teacher produced materials do, appeared to be 'a critical part of the individual learning and development necessary for significant change' (Weindling et al op.cit p.74).

According to Thornbury (1973) this kind of group did run into a range of problems. Very few teachers felt able to give such long term commitment to this type and quantity of work on top of their normal job. As a result the membership was rather unrepresentative of the teaching body. Weindling et al (ibid.) found that many of the members of such groups were working hard at improving their own professional qualifications, and had already been involved in a number of similar projects. Weindling et al do not comment on this, but involvement in either of these types of groups was probably very sensible for the career minded, in that it got one noticed by those with influence - head teachers, advisers and the centre warden. Also, many were primary head teachers most of whom had on-going close relationships with the centre and presumably more time to give to such projects. Weindling et al's survey found many instances where groups faced difficulties or collapsed when members left, or when poor leadership or group dynamics interfered with progress. Also, Gough pointed out that tinkering with the curriculum does not necessarily impinge on practice in the classroom. He claims that 'much of the "curriculum development" in this country ....has little impact on classrooms' (1975:13).

1.3 A Centre For Dissemination And Training.

Although curriculum development was often cited as the raison d'être of teachers' centres, and although, according to Weindling et al's survey (1983), some centre leaders considered that "courses" had little lasting effect on teachers, by 1970 a survey by the Schools Council found that in only a small number of centres was there any 'systematic local curriculum development', and that the time spent on schools council projects was insignificant (Thornbury pp27-28). Most teachers' centres were involved in a wide range of other activities, according to Thornbury, 'meeting more fundamental needs'.

If the work of the two types of curriculum groups was to have any impact on what happened in the classroom it became necessary to achieve effective dissemination of ideas to teachers. Often this took the form of short courses held at the teachers centre. Thornbury (1973:29) saw this type of in-service training as the 'retail side' of curriculum development, involving the sale of 'the successful result to the consumer through courses'. He identified particular types of teachers' centres whose 'main purpose was to demonstrate the intimate connection between curriculum development and teacher education' (p.49).

The provision of in-service training for teachers increased dramatically in the sixties and seventies, though Weindling et al noted that this happened 'without definition or agreement as to the aims of various providers' (1983:23). Morant (1978: 200), suggested that the increasing involvement of teachers' centres in in-service training reflected among other things: the need, identified in a number of educational reports at the time as being 'increasingly articulated' by teachers, for convenient, practical, skills based courses; the lack of response to this 'urgent professional' need on the part of the university departments of education and the training colleges; and the influence of the University of London Institute of Education Teachers' Centre's involvement in inSET, 'that archetype of centres' (op.cit p199). Thornbury (1973) also mentions the finding from several surveys that initial training was not preparing teachers with skills needed for the classroom, and that teachers were dissatisfied with the standard and paucity of in-service courses, welcoming the opportunity to attend local courses with direct application to their teaching.

1.3.1 The pattern of development of centres.

Weindling et al's survey (1983) found that the pattern of development of a centre usually involved small beginnings with rapid increase in personnel, facilities and equipment as inSET expanded. Morant (1978:200) suggests that the rapid expansion of inSET in centres was facilitated by the fact that many LEAs gave the teachers, through steering committees, an 'extraordinary degree of freedom .....to map the advance of their own new centres.' Morant, Weindling et al and Thornbury all seem to imply that, though curriculum development was considered to be 'the higher ground' by the Schools Council and many centre leaders, teachers were more interested in practical courses which gave ideas and information about materials that could be applied to the real classroom situation. Thornbury rather cynically likening the situation to a Venus fly-trap, sees the courses as the scent and colour which 'lured teachers onto the sticky surface of curriculum development' (p. 29). The other significant boost to the expanding centres came from the Advisory Services who seized on the possibility of using convenient, centrally located centres for their inSET courses (Morant 1978).

1.4 The Functioning And Use Of Centres.

1.4.1 The centre warden

Looking more closely at the way teachers' centres functioned and at who was using them during the first fifteen years, it seems important to begin with the centre warden or leader. All the surveys and reviews of teachers' centres are quick to point out how vital this role was. Matthews (1973) goes as far as claiming a centre was only as good as its warden. This appointee was a new phenomena on the educational scene, neither adviser nor senior teacher nor LEA officer, and yet they had to be a little of all these things and more besides. Both Thornbury(1973:28), who referred to them as 'dogs bodies with many talents', and Weindling et al (1983) found that centres relied heavily on the key role of the leader. Weindling et al's findings suggest that, from the LEA point of view, the leader needed to be a qualified teacher with considerable experience in a senior teaching position, have good organisational and administrative ability and the ability to establish good relationships with a wide range of people. Also, s/he needed to be resourceful, imaginative and with a good vision of educational trends and of developments in inSET. Teachers in Weindling's study added the requirements of energy, vitality and enthusiasm and a sense of humour. They thought wardens should keep up with research and be able to disseminate relevant findings to the teaching force. They wanted tact, diplomacy and the ability to work with a range of people from different occupational backgrounds and from different levels in the educational hierarchy. The head teachers were concerned that wardens should have sufficient status to relate as equals to advisers and head teachers. From my experience as a teacher in those days, in the larger centres they certainly became men of high status. According to Thornbury (ibid.), although leaders lamented the fact that their career path was very unclear they did develop a wide range of skills and for the most part possessed and emanated amazing enthusiasm for the cause of teacher "education".

The job description was similarly all encompassing. Some of the head teachers in Weindling et al's (1983) sample identified it as one of the most difficult jobs in education, because not only was a warden expected to be 'a jack of all trades', they were also working in isolation from anyone else doing a similar job. The job was not very clearly defined, though according to Thornbury (1973) it was important that it should be seen as something distinct from any other positions in education. Weindling et al (ibid.) analysed a number of job advertisements and found that the main roles were seen as :

1. Responsibility for the management of the centre and the day to day running. - What this meant seemed to vary depending on how well resourced and staffed the centre was. It ranged from difficult cerebral problems like guiding a steering committee to make long range, well considered plans for the future to more practical issues like 'washing up the cups and saucers' (Thornbury ibid. p.28)
2. Encouraging curriculum development - Thornbury identifies this as the 'real' concern, although when he quotes findings from a 1972, NUT survey of teachers' centres he says wardens placed 'administration of courses' as their most important responsibility with curriculum development second.
3. Organizing inSET.
4. Responding to teachers needs - Weindling et al report apparent disagreement between LEA officers and wardens regarding how this might be best achieved. The wardens seemed to feel they should spend more time in schools talking to teachers, a view also reflected in some of the teachers' comments, while the LEA officers tended to regard the schools as their domain.
5. Working with the centre committee.-
6. Liaising and cooperating with the advisory team.

Weindling et al found that wardens believed they had a major responsibility to teachers. They felt their freedom to operate and their 'entrepreneurial' role were both important to this. Besides their work to identify and respond to needs, wardens also found it necessary to initiate ideas of their own on inSET and curriculum development, because they found that teachers can find it very difficult to recognise and articulate their own needs. They also found a role as adviser and consultant to heads and teachers, finding themselves acting as a channel of communication between teachers, LEAs and other inSET providers. Added to this were 'providing services and resources for teachers', a duty to ensure a neutral ground for meetings between various groups.

This multifaceted role was difficult to define. Interestingly, at this stage in the life of teachers' centres, very few of Weindling et al's sample of wardens saw their role as including the support of local involvement in national curriculum projects, which was the starting point of many centres, or involvement in school based and school-focused inSET, which was to be identified as increasingly important in the following years. However, one leader in the study, very much in the tradition of professional development and education rather than taking the narrower view of training, said that leaders acted 'as a stimulus to make teachers think for themselves, to make them aware of a range of possibilities and to make them responsible for their own needs' (p.84).

Besides problems of career prospects and what many leaders, according to the NUT survey (Thornbury 1973:42), saw as a 'derisory', insulting salary, problems were also identified by both Weindling et al (1983) and Thornbury regarding who controlled the centres. Pollard (1970), quoted by Thornbury (p27), states with force that teachers' centres had been 'virtually taken over by the local education authority inspectorate'. He claimed that both 'the wardens and the committees of teachers and stool-pigeons' sought permission for everything. In Weindling et al's (ibid.) sample, many of the wardens and LEAs claimed to work closely and harmoniously together and stressed the importance of this being so. Some centres believed they were 'an integral part of the advisory service' whilst others preferred to maintain 'a degree of independence'(p.111). However, others suggested that the advisory staff dominated the centres, deciding on the inSET programme, while the teachers' centre just provided the accommodation. A few mentioned liaison problems and even conflict with advisory officers. One leader is quoted as saying 'When advisers and the teachers' centre cooperate results are magnificent. When cooperation is not present progress is very difficult' (p.112). Two points that emerge from this survey which are likely to influence effectiveness are: the critical role of advisers in most centres (in some they even held the budget for inSET), and how much variation there is between centres both in terms of management and of LEA involvement. The ad hoc growth of individual centres had resulted in no real common structure or level of autonomy.

A further problem discussed at the time was where wardens were supposed to get the skills and knowledge for the job, particularly regarding curriculum development. Greenwood (1973:92) argues that if centres were supposed 'to bring about change rather than continuity' the wardens needed to be given the skills and knowledge to help them to become effective; knowledge which included 'how groups function, ...of current educational thinking and practice, together with some understanding as to what curriculum development might be all about'.

As there was no specific qualification for the position of centre warden, training was only undertaken after accepting the job. Weindling et al (1983) found that in training courses new wardens, like teachers, wanted practical tips on how to organise a centre. He identifies a number of courses and conferences organised by the Schools Council and the NCTCL (National Conference of Teachers' Centre Leaders) which wardens found to be useful as opportunities for meeting other leaders and discussing issues in common. The courses, run by the DES and colleges, or which related to general management, were found to be difficult to extrapolate from or not really relevant. Possibly the most useful support for wardens was found to be local groups of wardens meeting together. These meetings 'provided mutual support to leaders who perceived themselves as somewhat professionally isolated by the unusual nature of their job' (op.cit p.81). Specific 'training' for the work done by a warden was said by a few to be impossible to provide. It seemed to be a job in which each warden had to carve out their own niche and be adept at getting fingers in pies.

1.4.2 The centre clientele

As regards use of the centres at this time, Weindling et al (1983:120) give quite a thorough analysis of who was using the centre and why. In their survey he found that the majority of teachers had used their local centre at some time but only about half used it on a regular basis and that they used it for a range of reasons. Primary teachers used them more than secondary teachers, men more than women and senior teachers more than lower grades. The amount of use possibly reflects the usefulness of attendance on courses to one's career. Weindling et al suggest that male teachers, especially at primary level, may have been particularly influenced by this relationship. Job application forms at the time certainly asked one to state the number of courses "recently" attended.

When asked to give reasons for not using the centre the problem of other commitments on time was cited more often than the feeling that the courses and activities at the centre were not relevant. This latter reason was mentioned as often as was obtaining release from school by primary teachers. Thornbury (1973) points out that when teachers' centres began to expand there were surplus teachers available to cover for inSET. However, this situation did not last long , and in the 1970s Weindling et al note that the staffing situation had become relatively static. The survey did find that 43% of the teachers had attended other forms of in-service other than that provided by their local centre.

When asked to comment on their centre or in-service education generally, most teachers were very positive about the services offered by the centre and many thought that inSET was 'valuable in order to keep up to date, refresh ideas and stop stagnation'. Teachers were not happy with the amount of in-service activities provided by the LEAs or with the timing of most activities, two thirds of which were found to happen after school time. However, they did recognise the problem of finding cover for attendance at day time courses and many felt the necessary supply cover was not provided by the LEA. In a survey by Bradley et al (1974:44), in Nottingham, it was found that 'surprisingly few teachers appeared interested in joining a small discussion group' with clear aims to look at specific areas of teaching, devise methods appropriate to the context, experiment and finally evaluate the result. However, the authors fail to explain why they expected greater involvement in such time consuming, dedicated work on the part of full time teachers. They also found that teachers tended to see 'the content of in-service education as something functionally related to their daily professional task' with many still feeling 'the need for what might be termed the "bread and butter" type activities which can be related easily with the classroom situation and to which they can be directly transferred'(ibid).

When Weindling et al's (1983) survey tried to find school factors which might influence teachers' involvement with centres they found that the head teacher was a key factor, particularly in primary school. In schools where a staff had a high level of involvement in the centre the head teacher was found to have a positive attitude to the centre, to the centre leader and to inSET in general. They were also often found to be 'directly involved in the centre' either in a managerial or course leadership role. The centre wardens, when discussing the difficulty of communicating effectively with schools, particularly mentioned the important role head teachers had in 'alerting teachers to centre activities'. Keen head teachers were found to read through centre schedules and point out particular activities which might (or should) be of interest to particular teachers on the staff. They very rarely refused day release for courses and often covered personally for teachers who were attending teachers' centre activities. It was also noticeable that these heads placed great importance on regularly discussing curriculum matters with the staff and had given posts of responsibility for particular curricular areas.

1.5 The Problems Of Assessing Teachers' Wants And Needs

Teachers' centres were supposed to have a major role in addressing teachers' needs. However, most writers comment on the problems associated with analysis of such needs. Lee (1997:16) found "needs", in this context, described by Reti (1980) as 'the vaguest and most loosely used of expressions'. Weindling et al's survey (1983) found that although teachers' centres were trying to address needs, it was very difficult to actually establish what these were. It found that various methods were used: sending questionnaires to the schools, setting up systems of teacher representatives, using information the LEA advisers picked up on visits to schools and from their 'teacher groups' and through the warden talking informally with teachers who were attending activities at the centre. However, no one method was found to be reliably successful. Wilson and Easen (1995) point out that teachers' needs were not always 'self-evident' in the way it is often assumed.

Several writers also discuss the difference between teachers' perceived needs or 'wants' and what are found by outside agents to be their 'actual needs'. Kinder and Harland (1991), reporting on a scheme which involved advisory teachers, found that different parties in the scheme were working to different goals and this was partly because the 'real needs' of the teachers were not 'synonymous with teacher-only perceptions of "wants"'. Henderson (1976:10), looking at outcomes of in-service training, found that teachers who were attending the courses investigated had very diverse 'perceived professional needs' which tended to relate more to the school in which they were working than to any personal characteristics. However, it was found that what these teachers actually gained from the course was different to what they had expected, in that it often did not relate to the needs they had identified in advance. Henderson suggests that 'certain types of inSET may, therefore, in themselves assist teachers to identify needs', which he says 'calls into question the proposition that in-service training should be primarily a teacher-centred, problem-solving exercise'. Kinder and Harland (1991:45) similarly found that, although teachers expressed wants, many of them were not aware of real needs 'until the advisory teacher and the scheme opened up their eyes to the new possibilities'.

The process of needs analysis assumes that teachers have needs or wants which they will readily express in response to probes such as questionnaires. In Kinder and Harland's (1991) study some teachers were unable, or reluctant, to express either needs or even wants. In circumstances where teachers have established a routine which they feel secure *with; teaching the same subject or level for several years and using the same materials*, perhaps with other priorities for their attention and time, it seems quite likely that they might be blind to a range of needs which experts from outside of the school would immediately seize on. Lee (1997:280) found that a number of writers commented on the reaction of teachers to needs analysis. Williams (1991) claims that it cannot be thought of as a 'neutral' activity while Nixon (1989) sees it as possibly being 'extremely threatening'. Some teachers may see expressing needs as an admission of failings and feel concerned that the process involves loss of face. According to Williams (op.cit), it might even be used 'as a backdoor method of staff appraisal', particularly where senior management at a school or where LEA advisers are party to the process (Maclure 1989).

Gough (1997) claims that from the late 1970s there has been considerable debate about the issue of needs and its influence on training. Although the teachers' needs were said to be the focus of attention at the teachers' centre, the DES also had needs, as did the LEAs and the schools. Gough observes that needs will depend on who defines them, while Lee (1997) also notes the relevance of the context in which they are defined, particularly if this involves the imposition of a major educational reform. Lee claims that by the early 1980s it was becoming evident that 'LEAs would tend to give priority (and hence resources) to those things which were likely to meet "their" needs; similarly central government was beginning to designate educational areas for which particular "training grants" would be made available. Teachers' needs were increasingly being identified from above rather than below which was to have major implications for the survival of teachers' centres.

A further area identified as problematic was how teachers could disseminate information gathered from activities at teachers' centres to other colleagues back at school. Weindling et al's research confirmed other findings that 'the most difficult inSET stages were the initial problems of diagnosis and the later dissemination and implementation stages'. It also found that 'most of the centre leaders' time and effort was devoted to the organisation of courses and other activities rather than the beginning and end of the inSET sequence' (p148).

1.6 Widening And Diversifying Of Services.

Once teachers centres were in place they were in an ideal position to diversify and adapt in response to a range of developments. Weindling et al give the examples of teachers' centres being ideal venues for LEA's reactions to the recommendations of various government reports (1983). They were also able to encourage teachers to find out about and make use of major developments in technology at the time. These included the advent of video and the computer.

In the early 1970s, teachers centres began to be seen as useful locations for resource collections. As a result of the growing idea of producing cost effective materials for schools, they also began to house production and reproduction facilities. Thornbury

(1973:5) points out that a wide range of reading schemes and course and idea books began to 'pour' into schools and that a widening range of audio visual aids became available. It was good for teachers to be able to examine and possibly be advised on how to use such materials before deciding whether to order them. Thornbury suggests this would avoid unsuitable material finding it way into the classroom only to be left to gather dust in the stock cupboard. Weindling et al (1983) found that, while most centres had a range of resources and equipment that teachers could borrow at the centre, centres were also used as showplaces by educational publishers and manufacturers of audio visual and reprographic equipment. Several of the centre leaders in their study felt that 'exhibitions and the use of centre services' was an important way of getting teachers into the centre. Once there they found that teachers became interested in other things that were happening - further Venus fly trapping ! Many of the heads felt that the centres' resources and loan of equipment service was very beneficial for schools. Primary schools were found to make more use of these facilities than the usually better equipped secondary schools.

By the end of the 1970s, teachers centres were offering a wide range of services, and reacting rapidly and often creatively to demands. In fact, being real opportunists, teachers' centres began to take on so many roles that it was increasingly difficult to define them. Centres grew on an ad hoc basis and displayed little uniformity. Weindling et al quote one centre describing its development as 'partly historical accident, partly entrepreneurial, partly taking advantage of the availability of staff and buildings, partly LEA planned response to curriculum and inSET need and partly organised teacher association contribution to the professional work of teachers, all within the constraints of available resources' (op.cit).

However, change was on the horizon. Although the James Report in 1972 and the White Paper which followed had both recommended a major expansion in inSET, Weindling et al (op.cit p.28) point out that this was 'never fully realised'. They suggest that cuts in education began to seriously affect teachers centres and closures began in the early eighties. Morant looking ahead in 1978 believed that 'general purpose teachers' centres were not going to acquire additional resources on the scale enabling them to become fully and effectively, on the one hand in-service providers and on the other change agents for curriculum development' (p203). He suggested, particularly regarding small rural multipurpose centres, that 'it is uncertain whether survival in their present form can be justified on educational or economic grounds'. Thornbury (1973:141) looking ahead in 1973, in the light of the James Report, senses that 'new mechanisms for turning the classroom teacher into an automaton are to hand'. He suggests that 'an insidious spread of centralised curriculum could now be pushed into schools under the masquerade of inspecting what teachers have learned on courses' (ibid.).

1.7 The Influence On Teachers' Centres Of Major Policy Changes

In the 1980s, at the same time as a number of surveys had been set up to evaluate a whole range of aspects of the teachers' centre and in-service education in general, major policy changes by central government began to change the climate in which both teachers' centres and inSET were operating.(Kinder and Harland 1991) Lee identifies it as a decade in which 'educational reform has dominated educational policy'. (1997:12) A national curriculum was proposed, dreaded, piloted and then 'imposed' by the 1988 education act. This included new forms of assessment for pupils at seven, eleven and fourteen, with league tables published, supposedly to make schools more accountable for what they did and give parents more choice. Schools were to receive the majority of their budgets directly (LMS - Local Management of Schools) and this included a portion delegated for in-service training. Initially LEAs could decide how much of the inSET budget to delegate. In the 1992 Education Act, a national framework for the provision of inspection services was introduced to replace the traditional government inspectors. Schools were to be inspected regularly and the inspection reports were to be made public.

The 'centralisation of the power to define and control the priorities' of inSET by the use of grants from central government was introduced in 1986 (Harland et al 1993:4). The nature of these grants changed quite frequently 'with little advance warning' (Harland and Kinder (1992:25). In the beginning there was provision for local initiatives by the LEAs in conjunction with schools but later, I understand that these grants could only be used for training in areas which the government specified, with schools also receiving a 'delegated' amount for inSET in their budget. The first type of grant was called GRIST-Grant Related In-service Training, the present one is GEST -Grants for Education Support and Training. Teachers were contracted to spend five days each year on professional development.

1.7.1 Changes in the education service.

All of these initiatives were forcing changes at every level of the education service. However, Harland et al (1993) point to the contrast between the various reforms for education in schools and the continuing absence of a coherent national strategy to give a framework for inSET. They do not mention it, but there does not seem to have been a clear role in these reforms for teachers' centres either. Without 'sustained policies within a predictable structure' Harland et al feel: that the new inspection and appraisal system lacks the necessary support; that teachers, particularly in the primary sector, where each teacher had to come to grips with all the new curriculum subjects, would lack consistent and coordinated training for the new, and then later the revised, curriculum documents; and that the private sector involvement in training envisioned by government was envisioning, and school spending on training, would be very difficult to monitor and evaluate (p1). LEA advisors felt that the nature of discreet short term grants, with frequent changes of focus, made it difficult for schools to plan for, and for agencies to deliver efficient and effective inSET (Harland and Kinder 1992).

As the moves towards centralising control of curriculum came onto the horizon, several writers in the early 80s began to worry about the threat to the notion of 'professionalism' in teaching. Taylor's suspicion (1980:336), that when concern about cost effectiveness and accountability of in-service provision are considered, authorities are likely to be inclined to be more direct and prescriptive about the 'direction of professional development activities', and that investment in a more systematic and itemisable 'training' was becoming horribly true. Dadds (1997:32) regrets the type of training which she believes has emerged from the major educational changes of the decade. The 'delivery' or 'empty vessel' model of inSET she believes has treated teachers as technicians and failed to acknowledge the 'crucial role of teachers' understandings about, and experiences of, children'. Kirk (1992:141) notes the way many writers felt the initiatives "de-skilled teachers", 'whose task is simply to implement government inspired or government-controlled curriculum plans'.

This view is tempered by other writers however, who make the point that class teaching, by its very nature can not be completely prescribed from above. Kirk argues that the interpretation of national aims and the transference of curriculum packages into the classroom still 'requires an extremely diverse range of professional judgments'. (ibid) This view which was also taken by Gough (1989:52) who claimed that 'no matter how centralised the decision making, and the apparent rigidities imposed upon teachers, there is - usually - considerable room for maneuver'. Kirk (op.cit) points out that schemes published for teachers were still regarded as resources not courses, and that teachers were in fact criticised by OFSTED for letting schemes influence their teaching too much.

1.7.2 Changes in approaches to in-service training.

In a study of factors that bring about change in the classroom, English (1995) came to the general conclusion that external factors such as national curriculum and exam boards are more significant in bringing about change than is in-service training. He found that the teachers in his sample identified the national curriculum and all its associated assessment procedures as being the single most important factor in bringing about change in their classes, with commercial schemes also bringing about considerable pressure, particularly in secondary schools. InSet in fact was quite low down on their list.

However, although inSET was not found to initiate change, when the avalanche of change arrived, provoked by a range of other factors, the changes certainly created the need for rapid and effective dissemination and training. Kirk (1992:140) notes that many of the changes could not be effected 'without significant adjustments in the ways in which teachers discharge their professional responsibilities: no curriculum development without teacher development'.

The need for a modified approach to in-service education, at a time when less central funding was available, was found to bring with it a number of problems. Lee (1997:15) points out that one of the major problems of the more recent curriculum changes, and the system reforms that have taken place, has been the lack of financial support to match the recognition of the importance of in-service education and training to support these developments. The availability of GRIST money, to buy in supply cover for teachers on courses, temporarily resulted in an upsurge in the demand for inSET. The emphasis, however, was on whole staff rather than on individual teachers. Morrison et al (1989:159) note the 'burgeoning field of externally-led, school-focused in-service courses'. Phipps (1994) claims that individual teacher education had been pushed into the background as schools respond to DFE requirements. Emphasis has shifted to institutional rather than individual needs.

The increase in demand and the change of emphasis for inSET seemed to place too great a burden on teachers' centres. Alternative approaches to training began to be employed. Cascade approaches gained popularity. In the past the amount of feedback to schools from teachers who had attended courses was found to be very 'patchy'. According to Henderson (1977) feedback mechanisms rarely existed. He found feedback tended to be more systematic, and influential to staff behaviour when more than one teacher from a school had attended a course and in particular where the head also attended the course or actively promoted feedback from their staff.

Writing in 1989, Morrison et al suggest that the cascade model of training had been found to be a successful way of very quickly training teachers in the use of new curriculum innovations, though they add the proviso 'provided that certain conditions are met' (p.159). They evaluate an externally led course, which was 'complemented and informed' by on-going school based development. They believe that this type of cascaded course, normally involving passive receipt of a 'diet of prescriptions and received wisdoms', could not on its own provide solutions to the implementation of new curriculum. However, if there is provision for 'an admixture of input and discussion, corporate planning, the sharing of experience and the planning of proposals' there is more likelihood of success (ibid). They do acknowledge that there are problems with this model of training and their cascade model is tremendously complex.

A further approach which seems to have been adopted by many LEAs was the appointment of advisory teachers. Stanton 1990 found that the number of advisory teachers had increased and that most of the new appointments were connected with the new education initiatives. He quotes Stillman and Grant's (1989) belief that LEAs saw them as 'an economical way of rapidly promoting change' (op.cit p.53).

One big problem identified with this teacher advisory approach to training, was that the intended continued development did not take place once the advisory teacher no longer worked in the school. In the project evaluated by Kinder and Harland (1991), after the teacher advisors had run what seemed to be effective school based courses, the schools were supposed to sustain the project for themselves. They found that schools did not appear to have the time, the resources, the cultural climate or the expertise in delivery of inSET to take up the baton from the advisory teacher. A high school inSET coordinator we interviewed, identified similar problems inhibiting his staff. Phipps also found that the one intensive week of demonstrations in a completely new approach to inSET and teaching was not sufficient. He felt it needed continued follow up. He found that what actually happened after the consultant has left the school depended greatly on the senior management team in school (1994).

With the move to LMS the schools could buy in training from an increasing range of sources. However, they found it increasingly difficult to manage their finances. In a survey of how primary schools used their 'Baker Days', as the training days were called, Newton and Newton (cited in Kirk 1992) found that most of the time available was spent on planning and preparation for work in the classroom, with less than one day being spent on developing knowledge and skills. One-quarter of this was spent on concerns about OFSTED and one-half on an some aspect of the national curriculum. An inSET coordinator from one large high school said that this pattern was also true of his school. He claimed that, while it probably was not strictly what the days had been established for, 'custom and practice' had gradually taken over. He explained that schools still received grants for staff training but government specifies the focus for this training, and this money (GEST) cannot be used for anything else. Last year's focus was school effectiveness. However, the money which is delegated for inSET in the school budget from the LEA can be used for other expenditures. He claimed that his school had not used any of this money for inSET in the last three years; that it had always been used for more pressing and essential things. He maintained that although the teachers' centre still advertised courses these were often canceled because of low up-take.

Many teachers' centres have now closed. In some LEAs training centres have been established e.g. the Heath Training and Development Centre in Calderdale. The emphasis at this centre is on training and this is training for a wider clientele than just teachers. As it can include support and clerical staff, lunch time supervisors and any one else involved with schools, it certainly is not of and for the teacher anymore. Like other centres in Yorkshire, it serves a very wide area and so can not really be considered 'local'. Rather than there being a 'Jack of all trades' warden, the inSET is organised and coordinated by one of the senior advisers, and the advisory team is based there. It does not house any sort of resource centre for teachers.

1.8 Evaluation Of Effectiveness.

1.8.1 Apparent success.

Teachers' centres expanded and proliferated and gave the appearance, it seems of working well. Thornbury (1973:1-2) claims that 'the idea was so psychologically sound that it is a puzzle to know why they have not dotted the educational landscape for decades.' He suggests they 'met the felt needs of teachers and show the futility of attempting educational reform without teachers being directly and importantly involved'. He believed that they had achieved a 'silent educational revolution' (ibid) . Weindling et al (1983:153) felt that centres could 'fulfill an important role in supporting the professional development of teachers and providing an environment in which teachers feel able to make a critical analysis of their teaching.' They both found that teachers' centres had become important and sometimes major providers of in-service education, and that teachers' comments were overwhelmingly in favour of them. Weindling et al note that in 1982, at a time when 'every aspect of local authority expenditure' was being scrutinised, almost nine out of ten centres was still receiving the support of LEAs because they claim they 'provide professional support for substantial numbers of teachers at relatively low cost' (p149).

Commentators at the time attributed a number of strengths and advantages to the teachers' centre phenomenon. While Gough (1974:12) emphasised that the contribution teachers' centres made to inSET should only be seen as complementary to that provided elsewhere, he did attribute certain 'unique qualities' to teachers' centres. He highlights their local nature, the freedom they provide from the normal hierarchies of school or local authority systems and the 'tendency they have to involve the teachers themselves in the decision making, the design and the implementation of their in-service programmes'. He claims they are characterised by being both accessible and acceptable. Newman et al (1981)pointed to the advantages teachers' centres had of offering opportunities for:

a. the diagnosis and provision of inSET which was local in nature,
b. swift response to needs,
c. a secure environment,
d. professional esteem - arising from a sense of involvement.
(cited in Gough 1989:51)

The following strengths of teacher's centres were considered as well known by Morant (p.202):

1. Teachers' centres are accessible geographically to many teachers.
2. Control by teachers is exercised through teacher-dominated steering committees.
3. Short term professional needs of teachers can be responded to rapidly by teachers' centres.
4. Teachers' centre premises provide a neutral meeting ground for teachers, advisers and other members of the education service.
5. Wardens of teachers' centres are able to draw on the expertise of tutors selected for their subject or interest skill or knowledge, rather than because of their institutional background.

1.8.2 Need for more stringent criteria.

However, these assessments were mainly based on the views of three wardens of teachers' centres who had written quite extensively on the subject, Thornbury(1973), Kahn (1976) and Gough (1975). Thornbury in fact makes the point that during the rapid expansion of teachers' centres, actively encouraged by the Schools Council, the evaluation of success seemed to involve 'the click of the turnstile' more than anything else. This was not a very illuminating criteria. Thornbury suggested that a 'concept' like 'teachers' centre' needed to be evaluated more critically than it had been so far, by looking to schools to identify any impact.

Bolam (1980:95) claims the increased interest and commitment to inSET was 'to a worrying extent, built on an act of faith'. Henderson (1977:4) points out that James admitted that his belief in the effectiveness of in-service education had to be something of 'an act of faith' because 'surprisingly little hard information exists as to what effect various kinds of post-experience training actually have on teaching and the teacher'. The seemingly widely accepted assumption that the new methods being advocated by teachers centres would be effective because they 'accorded with current notions of good practice' was criticised by Topping and Brindle (1978), who believed that 'observable and measurable changes in the children are the crucial criteria of the effectiveness of an in-service course'. Natham (1990) in particular notes the lack of systematic monitoring or evaluation of the effectiveness inSET prior to 1987; an effectiveness which was likely to be limited anyway by the facts that in-service in the 1970s was uncoordinated, and that it was left to individuals to 'undertake some form of education that might influence their teaching or enhance their prospects of promotion' (Lee 1997:9). As Milroy (1974:35) concludes 'all in-service could be said to be desirable but it was more difficult to assess its real impact not only on the individual teacher but on the quality of education'.

1.8.3 Increased interest in evaluation

Attention began to focus increasingly on evaluation from the late 1970s. This can clearly be seen from the growing number of articles in the British Journal of In-service Education in the 1980s, which reported the evaluation of various aspects of teacher education. The purpose of much of the early evaluation, mainly carried out by teachers' centre leaders or course directors, was to look at how courses could be modified for use with future groups. Some studies did also look at the long term effectiveness provided by in-service education though Henderson (1977:5) points to the often subjective nature of such evaluation which generally lacked clear objectives and 'appropriate judgmental criteria'. (Interestingly, however, despite the many claims for its 'importance', the impact of local curriculum development does not seem to have been thoroughly investigated.)

By the end of the eighties research into the effectiveness of inSET was gathering 'momentum'. According to Kinder and Harland (1991:2) this was mainly in response to new funding and to requests for such lines of enquiry from the DES. The call for more thorough investigation into the effectiveness of inSET probably reflected as much as anything the cuts in education at the time, a factor which was noted as influential by all the studies mentioned here. Topping and Brindle (1978) point out that 'as purse strings tightened' it had become more necessary to question the effectiveness of inSET activities. According to Henderson(1977) economic factors suddenly 'required administrators, at both DES and LEA levels, to ask more searching questions about "value for money"'. Milroy (1974) suggests that a more coherent policy was necessary, the ad hoc growth of in-service and teachers' centres had to be made more cost effective and coordinated and had to relate more effectively to a range of specific needs. If money was to be spent on educating teachers it had to be money well spent.

1.8.4 Problems related to assessing effectiveness.

Kinder and Harland (1991) attribute the lack of evaluation studies before this time to the constraints of time, money and probably most importantly the very real problem of the technical difficulties associated with attempting to identify the impact of particular strategies on classrooms. In a study by Bolem (1981 cited in Bolam 1983) into the effectiveness of inSET in OECD countries, he points out that this type of research is generally inconclusive for a number reasons. One major difficulty is the problem of finding an appropriate methodology which would give reliable information on the impact of courses on teacher behaviour and, even more problematic, which would identify change in student behaviour directly attributable to a particular experience of teacher education. English (1995:295) asserted that ' the notion of attributing changes in classroom practice to in-service training activities in the past is fraught with difficulties regardless of the investigative approach that is adopted.'

1.9 Exploration Of The Issues Relating To Evaluation.

1.9.1 Professional development or teacher training.

The problems with how to evaluate inSET lead researchers to explore a range of questions which are probably helpful in considering the general nature and usefulness of teachers' centres. One aspect looked at was the nature of inSET, whether it was more effective to provide teachers with 'education' so that they developed professional skills, or whether 'training' was needed to help them to master particular classroom practices or the use of specific curriculum materials. It was generally felt by those in the teachers' centre movement that professional development was essential for effective teaching (Kahn 1984) and that this required a much wider knowledge base than simple 'training' could provide. The use of the word "education" rather than "training" in the title of the NCTCL journal reflects their belief that training is only one part of teacher education (Lee 1997).

Looking to the teacher, Taylor (1980:338) speaks strongly of 'professional responsibility' and suggests that all types of training and study experiences would be useless if the individual teacher did not feel committed to professional growth (p.336). He believed that if teacher education could 'establish, maintain and enhance' such a commitment, teachers would be able to make use of, and compensate for any gaps or deficiencies in available resources in ways 'that have favourable outcomes for student learning in the classroom'. Each teacher would need to use 'all means available to become a better-educated person, to develop judgments and skills and to keep in touch with ideas and innovations in his or her own cognate fields'(p.337). Dadds (1997:33) also discusses the importance of professional responsibility and defines it as nurturing within oneself 'inner wisdom and critical judgment about what can be provided for each child in each situation'. She sees the theories and methods provided by 'experts' only as 'supportive resources' (p.34).

The aims of the providers of inSET are seen as indicators of their beliefs about the professional nature of teaching. Dadds (1997) analyses the attitudes of teacher educators and criticises those who believe that teachers, who work so closely with children, ' should have their thinking about the nature of good practice arranged for them by those outside schools'. While she asserts that 'it cannot be in the best interests of our children to be educated by teachers whose intellect and professionalism are viewed in this way', she maintains that 'professional development based on the cultivation of informed understanding, judgment and "voice" can help to counteract the more obvious failings of the worst delivery models'. She suggests achieving professional development through inSET courses by asking teachers to reflect on their own experiences and by nurturing a belief in themselves as 'potential experts'.

Though "reflection", (Schon 1983), as a general approach to post-experience education has wide acceptance, Lee (1997:11) notes, in his survey of research into the development of inSET, that there is no 'clearly articulated and agreed concept of teacher development' available. Judge (1980:340), investigating the validity that teaching can claim to be a 'profession', also points out that there has never been a 'universally recognised pattern of education and training' for the "profession" nor has there been agreement about the 'necessary' content of such training. Chambers (1977:93) claims 'there are as many variants in interpretation as to the role and significance attached to "inSET" as there are people taking part in the discussions'. He particularly notes the difficulty of distinguishing between the *training* and *educative* aspects of inSET. This lack of clarity makes it difficult to assess how effectively teachers' centres can achieve the aims of developing teachers as professionals rather than, as Dadds sees the alternative, 'the uncritical implementers of outside policies' (1997:32).

The notion of teaching being a profession has lead to considerable debate over the years with implications for training. Judge (ibid) is rather circumspect about the idea of teachers' professionalism. He points out that teaching unlike other professions is a 'mass profession', that it is performed by 'an embarrassingly wide range of practitioners approaching the task with different assumptions, intentions, intellectual equipment and qualifications'. When answering questionnaires about what they felt they needed most from teachers' centres or inSET, a fairly large proportion of teachers seem to reliably plump for courses which provide ideas which are immediately applicable to their teaching. Bradley, Flood and Padfield (1974: 44) found that, while there had been an increase in the number of teachers interested in some form of curriculum development work at the teachers' centre, many of the teachers in their survey still wanted 'bread and butter activities' which could be 'related easily with the classroom situation and to which they (could) be directly transferred'. In the Bristol 'SITE' project, reported by Bolem (1983:16), it was found that 40% claimed they attended in-service courses to improve professional knowledge while 21% wanted to improve their teaching.

1.9.2 Selecting effective training methods.

The question of which methods of teacher education were effective in the long term was also perceived as very pertinent. From his survey of evaluation outcomes, Henderson (1977:4) felt trainers 'would like to be able to identify the formats and techniques which were most appropriate and effective in specific situations'. As mentioned above, many of the early writers claimed that involvement in curriculum development, even if this meant 're-inventing the wheel', was the most effective way of improving teaching. However, Richards (1972:31) questions whether, primary teachers at least, really got very far 'with defining new objectives of their own, devising their own experimental procedures or developing their own mini curricula' in the way Schools Council Working Paper 10 suggested they should. He feels that the Schools Council greatly underestimated the 'complexities of local curriculum development'. He maintains that good teaching is 'largely intuitive' while 'teasing out the underlying rationale of good practice, formulating it for others to try out and then evaluating it in a wider setting are very difficult procedures, calling for much expert help and entailing far more time and effort than the vast majority of teachers can reasonably expend'.

Weindling et al's finding (1983) that this kind of involvement in curriculum work only reached a small number of teachers. Lee (1997) asserts that the national projects which were developing curriculum during the 1960s and early 1970s did not have significant effects on teaching. It therefore seems likely, as Richards implies, that however much the curriculum developers got out of the experience and however good the materials were that they produced, this type of professional development through involvement with curriculum development, as organised at the centres, was never going to be influential enough to have widespread and lasting effects.

Trying to establish the way in which different types of training, resources, experiences and government directives influence what happens in the classroom is seen as an important precursor to planning effective in-service. Stanton (1990) points out, referring to Wragg's (1987) findings, that teachers develop set patterns of working which they 'successfully rehearse on many occasions'. For their skills to develop these 'self-perpetuating routines' need to be changed in some way. Maxwell (1992:174) suggests that for effective training an in-service regime needs to have models 'that make it more likely that, as a result of attendance at an in-service, changes in teacher attitudes and behaviour will occur'. Wragg believed that such changes needed to be well structured and supported or they would be too stressful (cited in Stanton op.cit).

In the eighties researchers looked more closely at the ways different types of inSET impacted on teacher behaviour. Bolem (1981) points out the need to recognise that teachers are adult learners, though Topping and Brindle (1978) note that techniques of teaching teachers are far less well developed than have been techniques of teaching children. They looked at the teachers context and pointed out that they usually have neither the supervision nor the attention, recognition and approval which other learners often receive. 'Teachers are supposed to be self motivating and work for subtle individual satisfactions and long-term, deferred goals like promotion' (p.50). Wood and Thompson (1980:375) point out that 'most' inSET focuses on 'information assimilation' which they claim does not 'fit into what we know about adults and adult learning'. They identify this as a 'major flaw' in teacher development programmes (ibid).

Little research has been undertaken into the implications for approaches to training of the way adults learn. Several writers mention the work of Joyce and Showers (1980) who attempted to inform inSET regimes by looking at the way teachers acquired skills and strategies. They differentiated quite clearly between the goals of 'fine tuning existing approaches' and 'mastering and implementing new ones' and noted how much easier the former is to achieve than the latter (p.380). They identified four levels of impact to classify the outcomes of training - awareness; concepts and organised knowledge; principles and skills; and application and problem solving. They maintained that awareness of the importance of an area and the understanding of relevant knowledge are likely to have little impact in the classroom if they are not supported by the acquisition of the skills needed to apply what has been learnt and to adapt it to new circumstances, and the ability to integrate the new strategy into a teaching repertoire. The advisory teachers providing classroom support in the survey by Kinder and Harland (1991) found that little progress could be made with some teachers in the areas the project was trying to focus attention on because more fundamental skills in general classroom practices and organisation were lacking.

Regarding the training strategies able to achieve these outcomes, Kinder and Harland found that, in the studies they examined, certain main training components were made use of:

- presentation of theory or description of skill or strategy;
- modeling or demonstration of skills or models of teaching;
- practice in simulated and classroom settings;
- structured and open feedback (giving information about performance);
- coaching for application (hands-on , in-classroom assistance with the transfer of skills and strategies to the classroom) (p.380).

They suggest that, while all of these were useful training strategies, when used together they each have far more power than when used alone. They also believe that there is no point looking for impact on student learning until the fourth 'outcome' has been achieved.

A much more detailed framework of outcomes was developed by Kinder and Harland (1991). They used Joyce and Showers training outcomes but expanded this to include motivation and value-orientated changes because they found the nature of outcomes to be more complex and broad ranging.

Several studies have looked at how radical change in teachers' classroom behaviour and style can be achieved and have concluded that long term in-service programmes are necessary. Each stresses the importance of the teacher receiving on-going classroom support. English (1995) reports that Fullan (1982) identifies seven key features of the change process and stresses that change is both incremental and developmental. Eraut et al (1988) found that in-service would need to last at least a year. In the light of such hypotheses, Bolem (1983) points out that 'pedagogically inSET is frequently badly planned and implemented.....modeling practice and feedback are rare; on the job coaching is even rarer'. (p.16)

It is probable that teachers' centres, in their traditional approach to inSET, could only contribute to a limited part of such a framework of training strategies. Morant (1978:202) felt that, 'while the majority of general purpose centres regard in-service work as their chief function', at that time, they had not actually 'progressed beyond the "instructional course" phase in their institutional development'.

1.9.3 Individual or staff development.

A third aspect studies began to look at was whether it was more effective for inSET to work with individual teachers or to target a staff as a whole. Traditionally the teachers' centre had treated the teacher as an individual, both in terms of curriculum development and of in-service education. The SITE project in Bristol found that only 4% of teachers in their sample considered whether a particular course might be beneficial to the needs of the school when they selected a course to attend (Bolem 1983).

With increasing concern about school effectiveness and value for money, this practice began to be questioned. From the end of the seventies, there had been a growing feeling that individual teacher development away from the school did not necessarily provide tangible benefits for the school. In Henderson's evaluation (1977:15) he comes to the general conclusion that in-service training was more likely to be effective if it was designed 'to involve the school as a system rather than the teacher as an individual'.

Midwinter (1974:14) pointed to 'the truism that teachers operate in groups and are institution bound'. He said that teachers' centres needed to take more cognizance of these facts and suggested that it was school staff as a unit which have to be energized and mobilized. Eighty percent of teachers in the SITE Project were found to be in favour of each school having a clear inSET policy linked to school goals, although only 13% said they already had such a policy (Bolem 1983). Bolem suggests his findings show that teachers were interested in job or school related inSET, which in turn seems to suggest they were not convinced of the efficacy of individual professional development. He mentions a number of surveys undertaken at the time. The main finding was the need for' 'in-service work to be school-orientated or focused, ...it was important to relate in-service programmes to the curriculum and life of the school' (op.cit p.35).

Bolem points out that school focused inSET increases the potential for the type of on the job training and coaching advocated by Joyce and Showers'. Gough (1997:25) in his survey of articles about teachers' centres notes that 'in the 1980s accounts of *staff* development were becoming more common'. In response to government initiatives to improve the teaching of primary science, Calderdale LEA mounted a number of central courses. They found that while these successfully did what they intended to do, i.e. demonstrate what science education could involve, they only reached 1/3 of the primary teachers and seemed to be preaching to the converted. To tackle this problem they began to experiment with school based courses and found these more successful (Kinder and Harland (1991).

The issues surrounding training and professionalism continue to provoke discussion. The point of view taken seems to reflect the way the teaching force is regarded: whether it is seen as a body of 'professionals with a measure of autonomy over the work they do' or as 'vocational workers implementing learning programmes designed by others' (Lee 1997:18). This opinion in turn seems to be influenced by current educational policy and the imperatives for training this has created. This can be seen in England at the moment where, after a decade of teachers being seen as a members of 'a staff' in a regime of increased central control, there has been a shift back to talk of teachers as individual 'professionals' in the latest white paper (1997).

It appears that the question of whether professional development or more focused, rigorous training is appropriate depends on where the teaching body stands in relationship to major curriculum and methodological change. English (1995) suggests that, regarding educational change, the aims of inSET may in the past have been inappropriate. He quotes Fullan's suggestion that the ultimate aim of inSET, as far as courses are concerned, should be 'less to implement a specific innovation or policy and more to create individual and organisational habits and structures that make continuous learning a valued and endemic part of the culture of schools and teaching.' Henderson (1976) concludes from his findings that inSET 'intensified, focused or enabled existing predilections for change rather than initiating it'. It is possibly more appropriate to give concerns about 'professional development' more time, space and money once major change has become fairly well established. At such a point, in-service education at teachers' centres could be more concerned with the development of any new curriculum initiatives, and the 'fine tuning' of competence, rather than with trying to help teachers to take on board completely new ways of teaching. Thus teachers' centres could concentrate on what in the early 1970s they are thought to be best at; giving support to teachers who were responsible for their own professional development. This government is resurrecting the idea of a General Teaching Council and the possibility of professional centres. However, it is too early to know what form these would take or what they will have learnt from the experiences of 'teachers' centres'.

POST SCRIPT

In June 1998 we visited the Elmete Professional Development Centre - the closest institution to the old John Taylor's Teacher Centre we once had in Leeds. This visit provided some stark contrasts to the descriptions of teachers' centres in the 1970s.

The Approach

There has been a dramatic change in approach at the Centre. The Centre Leader felt it was most effective to go into schools and work directly with head teachers and school staff. He claimed that head teachers were reluctant to pay for individual teachers to go out of school for training.

The Centre works as a business, and in so doing differs very considerably with the way teachers' centres did in the past. The relationship between the Centre and the schools in the authority is organised on the basis of a 'service agreement'. There are a number of levels of service that schools can choose to buy into each year. The senior advisors, working as link advisors, have access to resources available in the authority. Part of their job is to broker these resources with the schools. The centre leader claims that the service agreements are a key way in which centres have adapted dramatically to the changing climate in education and in the wider world of commerce.

In this authority, all the government funding for inSET is delegated to the schools. When budgets were first shifted to schools in the late eighties, centres were not expected to continue to have a role. However, the level of 'buy back' into the services being offered by the advisory staff has remained high. Services provided are directed mainly towards primary education in response to these 'market forces'. The centre leader claimed primary schools still felt they needed someone to interpret government policy and provide focuses for their teacher development programmes.

Funding comes from central government for certain services and from clusters of schools for other services, such as those provided by the 'service agreements'. It is important to note that the amount of money generated by courses at the Centre is declining as school based or focused work is increasing.

To provide the services the schools require, the Centre is made up of a number of units which include:

- A team of primary teacher advisors-
    - these are generic rather than subject specialists;
    - they aim to bring about school improvement;
    - teams go out and work in classrooms with teachers.
- An Assessment and Achievement Unit.
- A Multicultural Education Service, which has a link with special services in the authority.
- An Early Years Provision team consisting of a co-ordinator and eight advisors, four of whom are seconded to the centre for one or two years.

Staffing

The head of the Centre is a senior advisor who has operational responsibility for each aspect of the Centre. He is answerable to a chief advisor, who provides support and advises on development. Control is delegated to the heads of the various units.

Besides the permanent advisory staff there are a number of seconded teacher advisors. They all plan their work for the year in advance, in consultation with the senior management team at the centre. At the end of each year an annual review looks at what they have achieved. They are held to account for the work they do and the funding they attract. Teacher advisors must make sure they are marketable at the end of their term of secondment. If they are successful, they are almost guaranteed a good career move, if they are not, they will go back to their old job and probably find achieving promotion rather difficult.

Influences On How The Centre Works

In the past teachers' centres took on board a whole range of functions and focuses. There was no accepted approach to needs analysis, but in various ways a wide range of local needs were considered and catered for.

Now, the demands of Government drive the system rather than local needs analysis. The centre is seen as a focal point for government policy. It provides personnel who can interpret this policy and outreach to schools, and who can also provide exemplars of good practice.

The centre leader claimed that the government, by forcing change, had induced a 'fear factor' into schools, and many schools have turned to the Centre for help in coping with the onslaught of directives.

The work of the Centre has two major influences: the DFE and OFSTED.

DFEE Policy:

The training that is done at the Centre responds closely to the demands of government policy for schools. At the moment the government's concern is with the teaching of the 'Key Skills' - literacy, numeracy and information technology. Teams of trainers are therefore being established for these three areas. The team already working on the government's literacy proposals - a 'literacy hour' each day for primary school children - includes a core of permanent advisors supported by a number of teacher advisors seconded to the Centre for two years. The DFEE has provided a 'Literacy Hour' training package. The literacy team at the Centre is plugged into the cascade system coming from central government to train all primary teachers in the approach laid down by the DFEE.

Next year the government focus moves to Numeracy and the Centre already has an embryonic Numeracy Team in place.

Training for the Literacy Hour: In the authority, two and a half consultants have been appointed by the LEA to have overall responsibility for organising the Literacy Hour training and for the work of the Literacy Team. The materials for the training sessions, as implied above, are central government designed.

The training consists of 2-day conferences at the Centre for the head teacher, a teacher and a governor responsible for literacy from each school in the authority. This group then goes back to the school, relays the training to the rest of the staff, and prepares teaching plans for September when the literacy hour must begin.

In addition consultants will go into schools which have been identified as performing in the lowest 10% of the authority's primary schools and schools which are due for re-inspection by OFSTED, to help them formulate their plans. In the future, as part of school inspections, OFSTED teams will check Literacy Hour plans and implementation strategies. They will also evaluate the effectiveness of each school's Literacy Hour.

OFSTED Inspections:

The work of the Centre personnel is closely tied to OFSTED inspections:

- Each school is expected to have a school development action plan for each year. Advisors from the Centre go into each school for two days each year to help head teachers to write their action plan. They then file a report on the progress made. If schools are found to be failing, a teacher advisor from the Centre goes into that school for one day a week.

- Schools receive a trial inspection from the senior advisors prior to an OFSTED inspection. They advise the school on improvements and try to identify 'priority one schools' - those who are failing - and work with them prior to the inspection. They also maintain a 'watching brief' on 'priority 2 schools' - those giving some cause for concern.

- At the end of an inspection the OFSTED team identify areas for improvement. They leave each school with a list of key issues to address and allow 40 days for the school to produce an acceptable action plan. An advisor from the centre assists each head teacher with the writing of this plan and OFSTED return after 6 months to check the plan and progress made to date

These services are all provided out of central funding and the centre staff are very much working out of Centre to target individual schools.

Other Influences

A number of other initiatives are beginning to affect the work of the centre:

- Beacon schools - identified as being particularly successful, they will work in partnership with advisory staff to help other schools to improve.

- Expert teachers - will show failing teachers how to be experts, they will receive a large financial incentive to remain as 'successful teachers' rather than seek promotion out of the classroom.

- Induction for new teachers - New teacher will receive 17 days of support either:
    - in the form of training at the centre
    - in the form of school based training
    - or in the form of an accredited programme with accessed tasks.

- Moves towards working with Institutes of Education to produce forms of accreditation for training programmes.

Conclusion

The work of this modern day Professional Development Centre is certainly a far cry from the work of teachers' centres in the past.

CHAPTER THREE

'The Teachers' Centre as a Strategy for Teacher Development in the Developing World' : A Review of the Literature

Genevieve Fairhurst and Gary Knamiller

1.0 A Concept To Sell Abroad

Following the successful early development of teachers' centres in Britain, they became a concept to 'sell' abroad, both to developed and developing nations. Thornbury (1973 a) suggested that by the mid 1970s they had become one of Britain's major visible exports and that interest and sponsorship for the British prototype abroad was greater than it was at home. Weindling (1983) noted the frequent visitors from overseas to centres throughout England.

Such was the faith in the idea and the demand for the model, that the Commonwealth Secretariat commissioned a group of experts to produce a 'handbook' which could be 'applicable to those setting up or developing teachers' centres in widely differing social, economic and educational conditions' [Commonwealth secretariat (1983) cited in Kahn (1983)]. The book, *Teachers' Resource Centres*, was first published in 1984 and revised in 1991, after being in 'constant demand', according to the Director of the Education programme for the Secretariat (preface 1991). While Kahn, the principal author, demonstrates his great enthusiasm for the role of teachers' resource centres, he mention in his introduction that the 'handbook' should be seen as a reference for guidance rather than a 'description of utopia'. He recommends that readers should 'concentrate on what is practical to achieve in their own particular area, given available human and physical resources, and the needs of the teachers and of the educational system' (1984:4).

1.1 The underlying philosophy

While British teachers' centres were rather difficult to define, being uncoordinated and developing according to local circumstances and constraints, it was felt that there was an over riding 'philosophy' which could be captured and that this could guide the establishment of teachers' centres elsewhere (Kahn 1983, 1991. Gough 1989).

The philosophy that was so important and enduring for the teachers' centre phenomenon was explained by several commentators. Gough (1989:51) claimed that the pivotal idea which was 'built into the fabric' of the early centres 'was that teachers' centres are teacher centred and should be quickly responsive to teachers' needs and wants'. Kahn (1984:8) felt that the 'main plank' in the philosophy of teachers' centres was that they should offer support to 'the teacher as a professional'. He finds the philosophy neatly 'encapsulated' in a case study by Levine and Horowitz (1976): teachers' centres embrace 'the concept of professional growth which values the integrity of each teacher's work... the importance of an interactive approach to learning ... the need for an informal atmosphere... a concern for building self confidence as well as knowledge among participants' (cited in Kahn ibid). The ultimate aim of teachers' centres, Kahn believed, was to support teachers in their aspirations to improve teaching and learning in the classroom.

Elements of an 'ideal teachers' centre'

(Kahn, 1984, 10)

- *'neutrality'*, so that all 'should feel free to expose their weaknesses and strengths in a mutual search for improvements'
- *'relevance'* as identified by the teacher not by someone from 'above'
- *'flexibility'* to 'reflect the changing needs of teachers and the educational system'
- *'education not training'* so that teachers are not expected to carry out 'almost blindly' the instruction they have received but 'are given the tools for the job and then trusted to apply them with understanding'
- *'teachers as providers'* as well as consumers so that teachers would not just seek in-set from experts but will also be able to 'use personal strengths' to share ideas with colleagues and act as leaders of workshops
- *'problem centred'* rather than solution-centred as there are no 'universally applicable solutions'. Such change would lead to an 'emphasis on diagnosing and studying problems', and, by sharing expertise and calling on outside resources, on 'finding appropriate solutions to the real situation'
- *'professional atmosphere'* as regards 'the building and the relationships set up by the staff of the centre', while acknowledging economic restraints. In particular are required 'a non institutional building' and 'an "open" director' who 'commands the professional respect of his staff, teachers and visitors'
- *'small beginnings'* so that 'by offering realistic support' for teachers 'struggling to meet daily needs', it would attract a growing clientele and expand with demand, and thus 'retain credibility (with) teachers and the community as a rational and realistic institution' in a way which 'a lavishly housed and equipped centre' would not.
- *'locality'* is ideally within easy reach of schools or homes of the teachers
- *'democracy'* which implies a majority of teachers sitting on committees and sub-committees associated with centres thus demonstrating 'the importance of the apostrophe after the word 'teachers' in the name Teachers' centre'.

In the *Handbook* Khan also considers the practical issues of running teachers' centres. (1984:110-113). He admitted that it was difficult to 'prescribe how the job should be done' but then, having conceded this, his set of basic views about the workings of centres undoubtedly, now with hindsight, appears to ascend to a utopian dream world. He concludes his 12 point plan for the 'day to day running' of centres:

> *'The Teachers' Resource Centre will weave the various educational agencies and the almost untapped expertise of the teaching force into its own democratic patterns through its committees, its co-operative style of work, and its empathy with its clients so that its work will win the confidence of the administration and the trust of the teachers and community. In this way the Centre will establish for itself an influential place in the evolution of educational advance.'*

This, together with other such enthusiastic statements in Khan's *Handbook* frames the backdrop of much of the rhetoric that subsequently one sees in regard to teacher resource centres in planning documents and hears in seminars in developing countries.

1.2 Prophets of caution

Even Kahn and his associates offered warnings to overseas visitors not to adopt wholesale the British model of teachers' centres, but rather to adapt what they saw to their own circumstances (Kahn 1982:79). Such caution has been repeated by many writers. Gough (1989:54) notes 'if the present set of practices (in teachers' centres), and their likely developments are the result of a set of historical, political, economic and social and cultural processes, then we need to examine those aspects that we are considering sharing with people overseas, because there is no inherent reason why the patterns we have now - developed in a particular context - should be appropriate elsewhere'. While Hawes (1977:37) confirmed his commitment to 'the principle of local involvement in the improvement of quality', he remained concerned about the wholesale adoption of teachers' centres saying that 'we are as yet only a little way into the idea, only half prepared to face its consequences'. He makes the point that a commitment to teachers' centres on a large scale involves considerable investment in terms of money and trained personnel. In developing countries, both of these are not only in very short supply but might possibly be employed in more effective ways. He points out that 'undertaking any major commitment involves cutting back somewhere else in the system'. Hopper (1996) takes the interesting tack that in any case it is not possible to 'export' such a model to a different educational and cultural setting because, in a different country, it would be influenced and shaped, intentionally and/or unintentionally by prevalent ideology and practice.

The belief that teachers' centres could fulfil such a role as put forward by Kahn in the mid 1980's implies a number of important assumptions. It assumes that the teachers served by a teachers' centre have a high degree of autonomy, experience, involvement in their work, and the skill and confidence to be reflective practitioners. It assumes a level of stability in teacher's professional and personal lives, which fails to take account of important contextual factors. It assumes that the expertise to tackle curriculum and materials development is available locally or can be easily developed. In particular it does not acknowledge that teachers might be faced with major initiatives for educational change coming from those with real 'power' - the department of education, and/or the donors who provide the funding.

Kahn's model does not consider the possibility that, in the face of massive politico-economic and educational change, teachers as a body might not be seen first and foremost as strictly 'professionals'. A possibly more realistic approach for teachers' centres was presented by Gough (1989) to the British Council Seminar 'Teachers' Centres World-Wide'. He sees the teachers' centre as reacting to and living with centrally directed policies and curriculum documents. In such a scenario, teachers are viewed more as technicians following blueprints rather than as professionals creating local initiatives on the basis of their own perceived needs and opportunities. Indeed, we may go so far as to say that Gough heralded the demise in Britain of teachers' centres as Kahn described them; in those earlier days before the emergence of the National Curriculum, SATS, league tables, OFSTED and the Teacher Training Agency, to say nothing of the Literacy and Numeracy Hours.

2.0 Teachers' Centres In The Developing World.

2.1. Before Jomtien

The literature on teachers' centres in developing countries prior to Jomtien and Education For All (EFA) in 1990 is sketchy at best. This does not mean that they did not exist; only that for the most part teachers' centres developed in an ad hoc fashion.

Hoppers (1996), writing about the early emergence of teachers' centres in southern Africa, says that periods of political instability and poor economic growth after independence, coupled with expanding demand for education at a time when countries had neither the resources or the trained personnel to cope with it, ironically often served to 'create space within bureaucratic structures for teachers and headteachers to appropriate greater autonomy for local decision making and action.' The inability of existing authorities to provide effective support for teachers lead in some areas to the establishment of teachers' groups and teacher centres, which were initiated by communities of teachers rather than by education departments. They represented the action of teachers to deal with education problems from local perspectives. Through them teachers and heads had 'full involvement in needs assessment, planning and implementation of activities, in accordance with local interests and priorities.' They were meeting places where teachers could compare problems and exchange ideas, much in the way Khan was advocating. The teachers' centres and teacher groups which developed in those early days often owed some of their characteristics to contact with British teachers' centres.

Hoppers goes on to point out that the early projects in Mozambique (ZIPs), Zimbabwe (school clusters) and to some extent Zambia's SHAPE project were grassroots attempts to support professional self development, locally and on a modest scale. Over time, with increased political and economic stability and with the backing of finance and expertise from outside agencies, Hoppers found that these early models changed. Teachers' centres became strategies of central control for the *'training'* (our emphasis) of teachers and the implementation of new curriculum initiatives in the general quest for improved quality and increased school effectiveness. He found that this inclusion of locally initiated teachers' groups into a hierarchical and bureaucratic framework usually involved them being 'streamlined and adapted'. Where this happened, 'much of the de facto devolution of responsibilities towards teachers' communities was reversed.' (p.13)

2.2 Jomtien and beyond

The 'World Declaration on Education for All', formulated at Jomtien, Thailand in March 1990 represents a watershed in regard to the proliferation of teacher resource centres in developing countries. While the main message of Jomtien was one of quantitative expansion of basic education, 'universal access to... primary education by the year 2000' (cited in Little 1994:238), professional educators, if not politicians, were clear that the issue of quality of education had to be addressed as well. And, one could not look at quality, of course, without considering the state of the teaching force that was to man this great quantitative expansion. Before moving to the issues of quality and teachers, however, a brief word about quantitative expansion since Jomtien will perhaps help to set the scene.

2.2.1 Quantitative expansion of formal schooling

While the literature documents the 'extraordinary quantitative expansion in the availability of formal schooling' (Farrell 1993:25), it also points to the continuing 'profound crisis' in the education systems of many developing countries (ibid.). It notes that, in a period of international financial crisis, the already low educational expenditure per student has been declining. Lockheed and Levin (1993:2) claim that 'much of Sub-Saharan Africa and parts of Latin America and Asia have not and will not come close to meeting universal primary education for the foreseeable future' and that some countries 'are farther from achieving this goal than they were a decade ago'. They and other writers mention that an estimated 145 million primary age children are still out of school (Farrell 1993, Little 1994, World Bank 1995).

Figures which show the availability of primary school places and initial enrolment do not provide the full picture. Lockheed et al (1991) found the sphere of influence of schools to be considerably reduced when the discrepancy between the numbers initially enrolling for primary school and the completion rates are considered. In Mozambique, where it is claimed that 50% of children between the ages of 6 and 14 do not attend school, only 1 in 5 of the children who do enrol for school will continue beyond Grade 5 (Arusha Workshop Report 1996:40). Such a high drop-out rate suggests a considerable wastage of the resources that are available. Lockheed et al (op cit) claim that, generally, in the 'low income' countries fewer than 60% of children actually complete primary education, and that these completion rates have declined in the last decade.

Even though education provision is low in some African countries, it also is under-utilised. According to the work of Hallak (1991 cited in Little et al 1994:8), in some countries the lack of demand rather than lack of provision is partly causing the failure to meet the EFA goals. Hallak acknowledges that this is to some extent due to the contribution children can make to family economics, but he found that demand is also limited because parents are not always convinced of the worth of education at the primary level. Lockheed et. al. suggest that the issue in several countries is not how to increase provision but how to maintain it at the present level of uptake (1991).

In many countries, the commitment to primary education for all has come at a time of severe economic constraints combined with high birthrates and substantial population increases (Lockheed and Levin 1993). Governments are forced to search for cost effective ways of providing more primary schools, basic educational resources and teachers. In Malawi for example, where primary education became free to all in 1994, enrolments in one year increased from 1.3 million to 3.2 million with the result that teacher pupil ratios increased dramatically (Arusha Workshop Report 1996:36). To cope with the massive expansion in schools various emergency measures to increase the teaching cadre were employed. Retired teachers were brought back into service and 22,000 untrained teachers were taken on after only two weeks 'survival' training (op.cit).

The main outcome of such rapid expansion has been an unavoidable disregard for the effectiveness of the education being provided. Gardner (p.28) notes that 'there is the temptation of political expediency to buy quantity at the expense of quality'. The World Bank in fact admits that, even in countries other than in Africa, where impressive figures are given for increases in length of attendance at primary schools, these 'do not reveal anything about the quality of education' (1995:33).

2.2.2 Quality of education in schools

In recent discourse concerning EFA the concept of quality has taken a central place (Little et al 1994), and this increasing interest in quality has resulted in a substantial amount of literature relating to school effectiveness in the developing world (Black et al. 1993). There are two main reasons why bringing the issue of 'quality of schools' is important to our consideration of teachers' centres.

The first is that 'good practice', i.e. 'the characteristics of learning activities conducted inside the classroom' (Hoppers, 1994:175), has to be defined in fairly precise terms. Only then can the teacher centre develop its programmes and design the content of its activities. Recent projects have attempted to do this. For example, the Andhra Pradesh Primary Education Project (APPEP) in India had a focused idea of what it wanted to see happening in schools and on the basis of this laid down *six principles* that teachers were to be trained in:

1. providing teacher generated learning activities
2. promoting learning by doing, discovering and experimenting
3. developing individual group and whole class work
4. providing for individual differences
5. using the local environment
6. creating an interesting classroom by displaying children's work and organising it effectively

(Wiegand and Jain, 'Teachers' Centres in Andhra Pradesh, India', reported in this paper)

In similar fashion the Action for the Improvement of English, Mathematics and Science (AIEMS) project in Zambia identified *12 skills* for its in-service programmes, which like APPEP rested on its notions of 'good practice':

- making and using teaching aids
- using songs, games and rhymes
- encouraging communication
- planning lessons
- planning group work
- drawing
- planning the chalkboard
- using the local environment
- testing for teaching and learning
- questioning for teaching and learning
- exploiting the text books
- reflecting

The second reason why we need to consider the quality of schools in regard to teachers' centres is that there are minimum conditions at schools that have to be in place in order to provide a receptive environment in which teachers can bring back ideas and resources from teachers' centres and get them going in their classrooms. (Knamiller, Maharjan and Shrestha discuss this issue in some detail in their case study of Nepal reported in this paper).

Pennycuick (1993:18) points out that even highly competent teachers will find it difficult to teach effectively in the type of inadequate facilities that are all too common in developing country schools, particularly if there is also a scarcity of instructional materials. In Uganda, for instance, the absence of books is a point that has clear implications for attempts to improve teacher effectiveness (Arusha Workshop Report 1996:64). It is clear that many of the contextual features which gave teachers in Britain a feeling of being a professional teacher - comparatively spacious, well maintained and resourced schools, access to a range of teaching/ learning materials, students from homes where education is often valued highly and support is available in terms of parental educational background, interest and books. This context, which set the scene for teacher centres in Britain, is often missing in the developing world.

It seems possible that conditions and contexts can considerably reduce the contribution teachers' centres can make to the quality of education. The conditions in which teachers work could, quite understandably, make them feel unable to go back to the reality of their schools and implement the ideas and approaches they encounter through the teachers' centres. If this is so, it might be more effective to direct scarce resources towards more basic interventions, and introduce teachers' centres when the infrastructure and conditions in schools are in place to give support to the work of the teachers' centre. (We will revisit this theme several times in the pages to come, and couple it to the issue of the 'relevance' of teacher centre 'messages' to the life in classrooms.)

3.0 Major Issues Related To The Recent Development Of Teacher Resource Centres In Developing Countries

Since Jomtien, teacher resource centres have been increasingly put forward by donor aided projects as one strategy in a drive to improve the quality of teaching and learning in schools. This strategy is dominated by two main issues: the policy of *decentralisation* and the philosophy of *teacher training*. But before considering these issues separately and in some detail, it may be helpful to set the scene by taking a brief look at educational reform in general. For, we must remember that teachers' centres is only one strategy, some may say a relatively minor one, for affecting what happens in schools. It certainly is dependent on a whole host of other strategic inputs and conditions.

3.1 Educational reform

Attempts to reform education have often focused on particular aspects of the system. However, this 'system' comprises a complex interlocking of institutions which are linked together in 'prescribed', long accepted and often finely balanced ways. The UNDP/UNESCO report believes that:

> attempts to produce changes in one component of the system can have strong repercussions throughout the system. What appears on the surface to be a project to improve primary school teachers, for instance, may be producing problems in the schools because of a curriculum which is based on older teaching techniques, which in turn may affect the chances of the student to pass examinations for entrance into the next level of schooling. Resistance to such an ostensibly simple goal may come from all those most closely concerned: parents, students, teachers and supervisors. (p.3)

Though it is very difficult, to attempt to analyse the scope, influence, assumptions and possible repercussions of a particular strategy this type of analysis is important for project planning, development and evaluation.

Deciding on the best type of innovation and the points of impact on the system that the innovation will require, present very real problems for change agents. Havelock and Huberman (1980) identify five common problems related to educational innovation, each of which have implications for the success of teachers' centres :

> 1. The poor understanding of the nature of the educational process.
> 2. The lack of proven good innovations.
> 3. The need for effective strategies for installing innovations.
> 4. The problem of sustaining innovations after the initial stage.
> 5. The problem of spreading the innovation throughout the educational system.
>
> (Cited in UNDP/UNESCO Evaluation Study no. 7 p. 7)

These problems mainly relate to the context. As the teachers' centre phenomenon is so dependent on context, its adoption as a strategy would require careful consideration of whether essential contextual features were in place to ensure effectiveness, particularly considering the amount of investment and commitment required for wide scale implementation of this approach to teacher education.

Findings suggest that such considerations do not always proceed inclusion of particular change strategies. The UNDP/UNESCO report gives a very depressing view on the way national education officials are often advised on options for change. It claims :

> In effect, innovations are promoted by practitioners who have experience and usually direct involvement in the development of a particular innovation. National education officials are faced with a variety of options in education, some of which are heavily promoted by practitioners from more developed countries, and some of which come with substantial offers of financial assistance if they are adopted. This set of dynamics encourages the unfortunate situation where solutions are roaming the world looking for problems to solve. The crucial linkage between the nature of the problem and the subsequent choice of a particular solution which is relevant to the problem is often lost in the process. Innovations tend to be adopted because they are available, because there is a local promoter who has the knowledge and the interest in trying the innovation, or because financial assistance is available. The activities of development agencies often aggravate this problem as they search for feasible projects which can be implemented with limited resources in a relatively short time frame.
>
> (p. 7)

One can't help wondering if this description of the state of affairs was prompted specifically by Kahn and his Handbook for teachers' centres (1984). The UNDP/UNESCO study found that 'less than half the projects in their sample showed evidence of serious consideration of alternatives when projects were designed' (p. 71).

Havelock and Huberman (1980 cited in UNDP/UNESCO p8) identify four types of strategy for installing and sustaining an innovation:

1. 'Crusade': which involves large scale campaigns in the context of revolutionary change.
2. 'Radical change': involving relatively rapid change through careful planning, assistance from external agencies and full support from national leaders.
3. 'Controlled expansion' : involving modest goals for small modifications and additions to a fairly stable system.
4. 'Small local projects' : which are modest in scale, slow in pace, rely on local resources and tend to originate outside of government control and possibly even 'go counter to prevailing government policies and goals'. These are rarely backed by the larger international agencies. Hoppers saw this type of 'grassroots' initiative as allowing more dynamism and local, collegial collaboration (1996:13).

In Britain, the use of teachers' centres seemed to fit in with 'controlled expansion' or possibly 'small local projects'. As the case studies in this report suggest teachers' centres in developing countries are much more in the 'radical change' category, and possibly at times even approaching a 'crusade'.

3.2 Decentralisation

3.2.1 Moves towards decentralisation of control

Teachers' centres, as advocated by Kahn (1984), presented a way of empowering teachers, of giving them a role in decision making at a number of levels. However, such an approach assumes a level of decentralisation apparently rarely found in developing countries. The 1995 World Bank Review provides evidence to show that schools in low- and middle-income countries are far less autonomous than those in developing countries. It points to research by Hannaway (1991) indicating that the management structures in these countries, which make schools 'solely accountable to central bureaucracies', limit school and teacher autonomy (op.cit p.127). It claims that in many of these countries education systems are rigid 'with, for instance, central selection and purchase of textbooks and central direction concerning classroom instruction' (op.cit p.88). In a number of developing countries, schools and teachers work under much tighter bureaucratic controls than is typically the case in the developed world. Resources and autonomy at the local level are virtually non-existent and initiative can not take place before central permission is granted. In these countries, teachers who strive to implement change may run into difficulties with the authorities that they may not be prepared to confront (Avalos 1993:183). In 1987, APEID claimed that thoughts about decentralisation were only 'exercising the minds of policy makers in a few countries' (p.11).

Over the years, the belief in the benefits of a greater level of local decision making and choice has increased. Hawes, writing in the late 1970s charts the way the high hopes for centrally managed curriculum development, and the attempts to improve the quality of teachers by centrally run initial training programmes fell foul of 'the complex human process of implementation in the field'. He also notes the fact that attitudes and practices were far more difficult to change than syllabuses, and that innovators often knew little about the attitudes that existed or of the processes by which these could be changed (1977:27). He felt that because of past failures to impact on education there was a mounting tide which pointed to the 'desirability and the practicability of establishing a local machinery for the implementation of central policies and further of investing professionals in the field with greater power and responsibility for local professional decisions of identifying and using local enthusiasm and expertise' (op. cit p.29).

A major area of concern, identified by Farrell (1993:16), is the 'control of teaching activities and the costs and benefits associated with centralised versus decentralised supervision policies.' He claims that in most countries teachers implement policies planned for them from above, but this implementation is poorly controlled and consequently not effective because close supervision is too expensive. The World Bank Review also notes that management and supervisory links are often weak (1995:88). They claim that, as a result, teachers tend to work in isolation, the consequence of which is that 'the curriculum is not implemented, instructional time is reduced, and teaching tools are not used' (ibid.). Three factors are identified in the Review which would, it is claimed, 'overcome these shortcomings: shared local consensus about desired outcomes, professionalism among teachers, and school autonomy' (ibid). Like many other writers, *Farrell supports this belief by advocating the freedom* for schools and teachers to 'exercise professional judgement' and the opportunity to 'learn from each other and from their own mistakes' (ibid.). In fact the promotion of such measures is a frequent recommendation in the literature (Harvey 1997). Although the World Bank (1995:140) describes instances where wide consultation helps to develop and implement reform policies, there do not appear to be specific examples to demonstrate that the application of such measures as more local collaboration and decision making, result in marked changes in educational quality and attainment. Such measures, however, certainly equate with the Khan (1984) concept of teachers' centres.

Recently, concerns about 'control' have become more evident in much of the literature about education systems and about increasing the effectiveness of education in developing countries. The World Bank, in its consideration of future operations, talks in terms of increasing decentralisation and the need to consult key stake holders (Review, 1995:14). Hoppers (1996:2) notes that the need for more 'involvement of stakeholders in educational development' has been emphasised for some years and has become part of the debate about "decentralisation". He believes that having more local control enhances the participation of local players and in turn can improve the quality of schooling. He points out that it is, after all, in the schools and communities that parents and teachers are 'faced with the daunting task of upholding a semblance of education that for most participants had lost meaning in the face of crumbling schools, seemingly irrelevant curricula and an absence of tangible benefits' (1996:1). He quotes the claim of Ghani (1990) that the tide of decay in the schools can be stemmed through 'increasing awareness about the value of schooling, greater parental involvement with the education of their children, more community involvement in school management and provision of resources' (ibid) .

Lockheed and Levin (1993:14) report that school decentralisation, in which control is shifted from central bureaucracies to local districts and schools, 'is one strategy to promote effective schools'. While they feel that centralisation is important for 'achieving scale economies or national consistency in activities such as textbook production, teacher training and setting standards', they also believe in the importance of 'increasing the authority of teachers and school administrators to design programmes that meet local needs', although they do note the difficulties associated with developing ' local autonomy and responsibility' (ibid).

The 1995 World Bank Review uses findings from the *Effective School* movement to support the claim that 'building national consensus involves stakeholders in the education system in national consultation mechanisms' and 'increasing the involvement of parents and communities by making schools autonomous and accountable can offset the power of vested interest; it is also critical for increasing flexibility and improving instructional quality' (p.14). They maintain that while effective inputs are important to improving quality 'the flexibility to decide locally how to combine and manage inputs in schools and other institutions' is more critical. They believe that input packages from central government, supported by donor agencies, while one useful strategy for school improvement, 'are not used unless the inputs fit local conditions, (and) teachers know how to use the inputs'. They therefore point to the need for a strategy of providing 'budget transfers so that schools and other institutions can purchase what is relevant to prevailing local conditions' (op.cit p. 86).

The World Bank Review suggests that there have been moves to encourage local influence on curriculum and related issues in some countries. They quote Kenya, where the language of instruction is decided locally in the first four grades and India which has a central competency-based curriculum, but where states and districts have responsibility for adapting materials and teacher training to local circumstances (World Bank, 1995:81). However, in the three South African countries discussed by Hoppers (Zambia, Zimbabwe and Mozambique), he claims that 'administrative decentralisation was achieved more in rhetoric and in a semblance of powerless local structures than in effective power-sharing', with a marked reluctance on the part of education authorities to hand over 'responsibilities for key education functions'(1996:13). As a result he believes that in these countries power has continued to rest in the hands of the senior education bureaucracy which may have 'delegated authority but never really lost it' (op.cit p.14). If his assessment of the situation is correct, the effectiveness of teachers' centres as a strategy for increased teacher professionalism and autonomy in this type of "decentralisation" seem unlikely. The Workshop Secretariat at the Arusha Conference claims that 'it will not be possible to use teachers' centres for local curriculum development if teachers are obliged to "cover" an over-loaded, centrally controlled and examined curriculum' (1996:7/8).

Despite concerns about what was being termed "decentralisation" in a number of countries, the level of conviction regarding the desirability of local innovation was so strong that it was, Hawes acknowledges, a 'logical step' to advocate the setting up of teachers' centres (1977). In the resolutions drawn up at the end of the Arusha conference this feeling that teachers' centres could be major instruments of educational decentralisation was still being clearly stated (1996:98). However Hawes makes a very telling comparison between the context in which centres evolved in Britain and the conditions prevalent in many developing countries. He claims that teachers' centres in Britain were:

> a very promising and a fairly successful series of answers to needs in a particular context, a context (i) which is diverse and uniquely uncentralised, (ii) where teachers are encouraged to innovate and gain prestige by so doing, (iii) where despite spending cuts there is still an elegant sufficiency of money, (iv) where transport and communication are good, (v) where there are very few untrained teachers, (vi) where teachers are well educated, professionally minded, relatively secure in their jobs and are not under compelling financial pressure to live above their means and support large tribes of unemployed relatives.
>
> (p.30)

While he stresses the contrast with conditions in developing countries and the danger of importing alien models, he recognises how tempting it was to 'close your eyes and hope that the teachers' centre model can travel' (ibid.).

3.2.2 Reactions to decentralisation

There is certainly a level of caution in the literature about the automatic benefits of decentralisation to education and reform. Hoppers finds there is in fact little systematic evidence to support the relationship between decentralisation and educational development (1996). Hawes felt that the two examples of totally non functioning teachers' centres he describes indicate the fundamental hesitance in developing countries, where there is often a strong tradition of bureaucracy, 'towards devolution of responsibility to teachers in the field' (1977:31). While he points out that the intention that teachers' centres should innovate rather than just disseminate 'may touch upon the whole authority structure within society' (op. cit p.31). Shaeffer (1990), reviewing the findings of Greenland (1983) and Greenland and Bude (1983), agrees that a more participatory approach to teacher education is based on 'a North of Western' premise that teachers are and should be professionally autonomous and that schools have and should have a well established climate of professional attitudes in which teacher initiatives are expected and encouraged. Whereas, in fact, he points out that, in many societies, teachers expect to be subservient to a larger, controlling bureaucracy.

The APEID report suggests that the usefulness of local decision making 'depends on the professional capabilities of teachers and the local political climate' both of which have been identified as problems in many countries (1987:11). The extra demands and responsibilities the process of decentralisation places on local education personnel is also noted by Hoppers (1996) and Dove and Pennycuick. Dove (1986) points in particular to the new skills that the ideology of professionalism and autonomy demand for head teachers. Pennycuick concludes that decentralised control is effective if it is accompanied by good management and that training is necessary for this, particularly for head teachers (1993). There is no comment from either writer about the likelihood of local personnel being able or inclined to cope with such extra demands or of where the necessary training would come from.

3.2.3 Decentralisation and teachers' centres

The need for teachers' centre empowerment, with teachers' centres being responsible for professional and academic improvement, where the training ideas come from both top-down and bottom-up initiatives, was seen as an important policy issue at the Arusha Conference (1996:10). However, Hoppers (1996:2) feels that, while there is now a 'convergence of thinking' on the need for teacher's participation and while teachers may now be 'participating in in-service training', this participation does not in fact involve any 'serious decision making'; nor does it 'influence the substance of training'. In fact Hoppers attributes what he sees as the lack of impact of decentralisation policy on teachers' centres to the nature of decentralisation, where 'participation in decision making is not focusing on the right things' (1996:14). He feels that the type of autonomy, suggested for instance in the 1995 World Bank Review, in which 'the teacher must have authority to determine classroom practices' but not to make other decisions 'so that (their) energies are not diverted to other areas', is a rather 'circumscribed' autonomy.

From this point of view the functions of teachers' centres in such a system would be increasingly 'prescribed' (op.cit p.16).

In an attempt to influence the nature of decentralisation, The Workshop Secretariat at the Arusha conference (1996:7) claimed that, if Departments of Education were to liberalise the curriculum, 'setting overall goals but allowing teachers the opportunity to reach those goals through their own efforts', teachers' centres would then be in a good position to help teachers to translate these goals 'into meaningful and relevant experiences' at a local level. In theory, such a system could give real meaning to teacher participation and professionalism. Gough (1989:52) identified the freedom to make curriculum decisions at school level as one of the 'great strengths' of the British education system, prior to the legislation in the late 1980s. Within this system teachers were free to introduce initiatives emanating from courses and curriculum groups at teachers' centres, giving 'a clear relevance to in-service education'. This is a relevance which is lost when 'curricula are mandated or centralised' as they are in many developing countries (ibid.).

Blackwell expressed the opposite and quite unique belief that the argument that teachers' centres are best suited to decentralised systems where there is local control of curriculum is unfounded. He suggested that 'the role of teachers as agents of curriculum development (is) in many respects easier in a centralised system'. That a centralised framework 'often gave teachers the security within which to innovate' (1977:65). Of course, that depends on how tight the framework is.

Hoppers (1996) feels there is often a discrepancy between accepted wisdom and actual practice. He concludes his paper with the claim that early teachers' centre initiatives showed that when the opportunity existed for local decision making, head teachers and teachers were quite capable of instigating and controlling educational reform. What they lacked was support from other agencies (op.cit p.18). However, he finds that the more recent drive to create 'effective schools' has combined with the philosophy of decentralisation, not as a way to give more local autonomy or promote self-empowerment, but rather to give 'increased government control in the promotion of school effectiveness'. He says the aim has become to find 'an effective delivery structure so that pre-construed ideas about relevant competencies and good practices can reach the schools and "stick" (op. cit p.11). He sees the new wave of resource centres 'acting as a springboard for reaching the teachers and heads' and school clusters as 'efficient delivery points of training at school level' rather than as the 'local expressions of teachers' autonomy and self reliance' they were often billed to be (ibid). In fact, this model seems remarkably similar to *training centres* as opposed to *teacher centres* now emerging in Britain in response to the profound educational changes of the late 1980s and 1990s.

3.3 The training of teachers

One of the most important roles established for teachers' centres in Britain was the role of providing a local centre to which teachers could go for in-service training. Many of the recent education projects in developing countries, in which teachers' centres have been included as a strategy, have also stressed this training role. We must remember, however, that a teachers' centre is merely a venue for training. In itself the teachers' centre provides no distinctive approach to training apart from that given at any other in-service venue. It does not give any clear guidance regarding how, through contact with a centre, change can be achieved in schools.

Historically teacher's centres developed and thrived in Britain at a time when there was relatively little central control over schools and their curriculum. When there was also little uniformity in the approach to teacher training, and when there were high levels of teacher choice. The success of teachers' centres was associated with teacher autonomy, professional development and participatory learning (Kahn 1984). The 'training' provided by the teachers' centre was mainly intended to support and extend what teachers were already doing in the classroom.

In the context of developing countries, the relationship between the experience of teachers and the aims of recent, in-country training initiatives is very different. The long established, traditional approaches to teaching and learning in the schools, where teachers in these countries received their education and now teach, are often greatly at variance with the approaches being advocated by recent educational projects. Also, in the past, the initial and in-service training teachers received, if any, often had quite a different emphasis from the more practical training now being encouraged.

In response to the all too common context of inappropriate curriculum, paucity of resources and untrained personnel, the emphasis in new education development programmes in developing countries is towards introducing radical pedagogical innovation in an attempt to improve the quality of the education provided. While radical change was never the aim of teachers' centres in Britain, teachers' centres in developing countries are often being used as a strategy in a bid to achieve rapid and far reaching pedagogical change.

Because teacher training is the major activity of teachers centres in developing countries, we examine it here in considerable detail. It seems likely that the success or failure of teachers' centres as a strategy depends principally on the approach adopted for training programmes.

3.3.1 Initial or in-service training?

One quandary for governments and donors when considering training, is how to share the available financial and training resources between initial training and in-service training. Greenland (1984:11) found that many ministry officials identified initial training as their highest priority, 'although few questioned the actual impact of such learning on the classroom'. Looking at long term strategies, Wolff et al. (1994:85) seem to support such a priority, suggesting that 'improved pre-service training may be the strongest impetus for changing teaching strategies'. Oliveira and Farrell (1993:13) suggest that governments need to decide a balance between pre-service and in-service. They claim limited research evidence suggests:

- the number of years schooling is generally positively correlated with students' performance, but there is a limit after which additional teacher training adds no visible gain
- teaching skills are best learned in close contact with the realities of the classroom and under the close supervision of experienced teachers
- short term, structured, pre-service training is an appropriate method for preparing graduates with purely academic backgrounds

They found that most of the teaching skills that teachers use are acquired during the first five years of practice.

Pennycuick (1993) looked at research into the relationship between teacher training and effective teaching and found that though the evidence was often inconclusive, if expenditure was taken into account, lengthy pre-training was unnecessary. Farrell (1993:34) pointed out that while pre-service teacher education was found to be important it was not for instance as strongly associated with success as textbook provision. Lockheed and Verspoor (1991) recommended emphasis on in-service, while Farrell (op.cit p.11), admitting that the findings are not clear, says there is some indication that the most cost effective combination would be relatively brief pre-service followed by systematic provision of in-service training (ibid.). He claims that strong evidence from a few studies show that in-service is important, especially if it is relatively participatory and it responds to needs the teachers have identified. Its influence is weakest when experts tell teachers what they ought to know (Shaeffer 1986 cited in Farrell 1993).

In-service training as a relatively cheap tool for educational reform was very attractive for governments and donor agencies (Gardner 1983). The World Bank Review shows that, while lending for teacher training had remained fairly constant until 1990, after this date there was a clear shift away from pre-service to in-service training (1995:150). At a time when the concept of on-going teacher education and the notion of teachers as professionals were increasingly influential, a set of goals and approaches for in-service education were presented at the UNESCO International Conference on Education in 1975 (cited in Dove 1986).

These goals stressed the importance of the right of teachers to have access to continuing education. They called for the setting up of regional centres to provide continuing education, to train unqualified teachers and to provide the guidance and resources for teachers to take care of their own 'self-education'. They also stressed that the professional experience of teachers should be used to benefit others in the profession. Dove

(1986:222) pointed out that by 1986 these "ideals" were 'largely unchanged', but that they were still 'far from being realised'. She identified problems not only because of financial constraints but also because of the demands such goals make on managerial and training personnel.

The type of in-service the World Bank (1995) identified as effective certainly seems to put even more demands on trainers. In its Review, The Bank points out the usefulness of well designed, continuous in-service training, based on the Joyce and Showers 1985 model, which includes elements of exposure to new theory or techniques, demonstration of application, practice, feedback, and coaching over time. It quotes projects in a number of countries (Colombia, the Philippines, Botswana and Sri Lanka) where in-service training is claimed to have had noticeable impact on student attainment (p.83).

Wolff et al. (1994:91) analyse the Colombian *New School* project among others, and similarly conclude that 'in-service training should consist of highly targeted hands-on programs designed to change specific classroom behaviours, linked with provision of educational materials'. While they do bring out this link between training and the materials used in the classroom, they do not comment on the problems arising for the trainers and the teachers if the classroom materials provided by the government do not match, or support the particular approaches being promoted by the training process. This type of problem is being encountered for example in Andhra Pradesh where the project is attempting to change teaching practices through the use of teachers' centres without first changing syllabuses and course books.

Shaeffer (1993:188) mentions the number of dilemmas facing bureaucrats and professionals charged with the job of providing in-service training. At whom and at what should the money be targeted in the face of such a wide range of need? Which approach is most appropriate for different contexts, particularly with regard to emphasis? Should it concentrate on theory or on practice, 'training' or 'education'? Is any one approach more effective than any other?

3.3.2 In-service training provision

There are several types of in-service training in developing countries noted in the literature. Training for new curricula, textbooks and materials; training for specialist roles such as headteacher, resource person, inspector; training for specific curriculum initiatives such as continuous assessment. Indeed, in-service training has been thrown at a whole range of problems (Greenland, 1983a; Dove, 1986). Two measures that have been widely adopted in an effort to improve the quality of teachers in the developing world are *up-grading* and *training for serving but untrained teachers*.

Up-grading is concerned with advancing the qualifications teachers hold. Increasingly the approach to this type of training is through distance learning. From the teacher's point of view, upgrading is popular because certification means advancement on the pay scale. Greenland (1983) found that, with this goal in mind, teachers were prepared to spend long hours acquiring formal qualifications. He says that, unfortunately courses were, for the most part, 'heavily biased in favour of academic knowledge rather than classroom methods'(p.11). He claimed 'tacit conspiracy, between governments, teachers' unions and teachers, to reserve the lion's share of financial rewards for those who acquire formal academic qualifications.' He notes that this practice is increasingly coming under attack from those who dispute the link between academic knowledge and practical teaching skills (ibid). Wolff et al. quote a program in Venezuela which encouraged primary teachers to gain a higher education degree, and rewarded their achievement with 'salary increments of 50%'. While the scheme lead to a vast increase in in-service courses and distance learning programmes, Wolff et al. claim that the provision of such training was very wasteful because it did not produce a discernible 'reduction in repetition rates' or an 'increase in learning' among primary students (1994:85). Indeed, the more money that goes for teachers' salaries as they advance up the pay scale through additional certification, the less there is for learning materials for children.

Courses for serving but untrained teachers have been developed in response to rapidly rising school populations and the need to employ untrained teachers. Established training institutes are ill prepared to meet the overwhelming demand for more teachers. In Uganda, for example, where half the secondary teachers are untrained and a quarter are primary trained, the training institutes can not begin to meet the training needs (Arusha, 1996:65). In Zambia in 1994 out of 45,519 teachers only 500 had experienced any sort of in-service training (AIEMs Review 1995). To meet the particular demand of these untrained teachers, there has been an attempt to cut down initial training to a very basic skills course lasting only a few weeks (e.g. Malawi).

As suggested above, up-grading courses and courses for serving, untrained teachers are frequently leaving teachers about in the same place in terms of pedagogical practice as they were before taking the courses. This is not always due to the content and processes used in such courses, although these may be irrelevant to the realities of schools and classrooms or too difficult to implement. It is mainly due to the lack of on-going support for these teachers in their work place. It is also due to a lack of continuous access to further in-service training. Few governments have the resources to provide for the range of support and training required. This gap in professional provision has increasingly become a concern of international donor agencies. The projects initiated by these agencies place new demands on teachers by initiating new curriculum and curriculum materials, new pedagogical practices, new exams and so on. Such new demands on teachers considerably increase the perceived need for continuing teacher education and training.

3.3.3 Theory in teacher education and training

A large body of research has looked at a wide range of theoretical issues concerning teacher training and how adults learn. It is important to touch on these here because most educational development projects which include in-service training aim to change teachers' pedagogical behaviour. Although the importance of theory associated with teacher development is acknowledged, project resources, particularly time, forces short-cut, quick-fix approaches to in-service training programmes. Nevertheless, we feel that any study of support strategies for teachers, such as teachers' centres, must consider the theoretical side of how teachers are helped to grow and develop. Some of the issues which are pertinent to decisions about the nature and content of training in a teachers' centre include: the investigation of what influences teachers and their practices in the classroom, suggested models of educational change, stages of teacher development and initiating innovation and the evaluation of the outcomes of training. A reminder of some of the findings of this research may help us to understand and evaluate the approach to training taken by different teachers' centre programmes.

Teachers and what influences their practice: The literature about the processes of change in education considers the way the school context supports change, and it tries to analyse teachers' perceptions and motivation. Fullan and Hargreaves (1992) claim that educational change depends on what teachers do and think.

There have been some attempts to understand the subjective experience of teachers and to understand the logic involved in their decision making. Guthrie (1990) points to the distinction between certain practices in teaching being 'symptomatic' rather than 'problematic'. In a study of school based support for science teaching in South Africa, Harvey (1997) found that behaviours which had been targeted for eradication at the beginning of the project, were later recognised to be rational responses to contextual constraints. He claims that the demands of the task of teaching are so great that teachers cope reactively in the face of routine, over load and limits to reform. Teachers perceive and evaluate change in very pragmatic terms. He cites Doyle and Ponder's claim (1977) that 3 criteria influence the teacher's vision of practicality:

• instrumentality	does the change proposal describe a procedure in terms which depict classroom contingencies
• congruence	does the proposed change fit into the way the teacher normally conducts class activities
• cost (time)	the ratio between return and investment.

Criteria such as these may well be in direct conflict with training which calls on teachers to adopt general principles of pedagogical practice, an aim frequently intended by education projects. The principles adopted by such projects are often identified in, and generalised from, a different context and have little in common with accepted practice in schools in many developing countries. One problem that Shaeffer identifies with this type of imported training programme is that they 'often try to reduce training to standardised, teacher-proof activities and a discrete and common list of teaching skills' (1993:188).

Considering the widely different cultural and environmental contexts targeted by donor aided projects, it seems likely that such standardisation can greatly reduce the relevance and ease of application of imported ideas presented during training courses. Wolff et al. (1994) note that, in the context of rural Latin America and the Caribbean, where there are 'ingrained current practices' and where there is a lack of heterogeneity in most classes, and where attendance is erratic due to agricultural and family commitments, learning particular teaching strategies would not be the most essential aspect of training. They see the need to help teachers to vary their teaching style to take account of the 'situational specific teaching and learning process' (p.78).

Accepted rules and norms within the particular context of teaching: the literature looks at the wide range of influences on teaching, particularly teachers as a group with accepted norms and practices. Hargreaves (1992:219) makes the point that the content of teacher culture consists of the substantive attitudes, values, beliefs, habits, assumptions and ways of doing things that are shared within a particular teacher group. The form of any teachers' culture takes shape among communities of teachers who have had to deal with similar demands and constraints over many years. He notes that a lack of congruence between a proposed innovation and the existing teacher culture can lead to difficulties in implementation (op.cit). Kinder and Harland (1991), in their evaluation of an in-service project in England, found that teachers tend to have their own 'code of practice', often implicit and unarticulated, and derived from a range of professional and personal experiences. They suggest that any in-service provision attempting to change practice may need to acknowledge the challenge of impacting on the unique and 'discrepant' professional philosophies of the targeted audience (op.cit). Several writers have noted that in many developing countries the teachers' centre 'ideal' of teachers coming together to develop the curriculum and their own practice was in conflict with the professional culture.

The implications of the fact that teaching is subject to strong rules, norms and expectations, both spoken and unspoken, has been investigated by a number of writers. Fuller and Clark (1994) identified three main dimensions that the norms and rules of teacher's classroom conduct take within such professional cultures:

1. norms about teacher authority
2. implicit rules about pupil participation, pertaining to interaction with the teacher and with fellow students.
3. the structure of classroom work and tasks, including what instructional tools are employed, how task's demands are placed on students, and whether work is performed independently or co-operatively (p.139)

Harvey (1997) in the South African looked at the way the above dimensions influenced the implementation in their project and found that:

a) the new teaching methods most readily adopted were those most congruent with the existing role of the teacher as sole source of authority e.g. modelling experiments rather than letting the class do a practical session. The teacher asked all the questions, couldn't leave students to come up with their own queries. They had problems getting teachers to teach process skills as well as content;
b) regarding rules of participation, code switching was used for a limited range of purposes and was initiated by the teacher. Chorus responses were seen as animating the students and were controlled using a code of cues;
c) there was a strong expectation that pupils should prepare answers as individuals, even when performing activities in groups.

Kinder and Harland (1991) noted in the study that, as teachers were being supported with the implementation of the new national curriculum in England, they were encouraged to select methods for the classroom with which they felt most familiar and comfortable. Use of such value-orientation was seen as having the key advantage of requiring minimal change and disturbance. Kinder and Harland conclude that the importance of value-orientation (I like to/ I prefer...) should not be overlooked in the planning or evaluation of in-service programmes.

Models for changing teachers classroom behaviour: several researchers stress that achieving change in the way teachers teach is a difficult and protracted process. Whittaker (1983, cited in Kinder and Harland 1991:5) went into schools in England to help primary teachers improve their teaching of science. He found that the teachers had no background in science and a low esteem for the subject, so that a significant change in their frames of reference about science was required. He suggested that 'very few people are capable of deliberately making radical changes in their view of the world: most can modify it gradually, if they are convinced of the value of doing so'(ibid).

As a result of their evaluation of in-service, Kinder and Harland (op.cit) felt that in-service projects could only achieve fairly limited influence on teaching style. For example they found that changing from formal to informal approaches was very difficult for teachers. In their experience, this could not be achieved in six weeks of in-classroom support and guidance. While Harvey (1997) claims the South African study shows that teachers can change their style, he stresses that this is an evolutionary rather than revolutionary process. Initially, the South African project began with week long, isolated in-service courses, which had little effect. Now they believe that 2 to 3 years of workshops (for modelling and collaborative planning), class support and teacher group activities are the minimum required to achieve meaningful change (op.cit).

In an attempt to better understand the change process, various writers have suggested models to explain what happens when schools and teachers change. Beeby (1966) produced a much quoted model of change for schools in developing countries. Amongst others, Guthrie (1980) has criticised this to some extent, in part because it has a 'western' bias as its end-point, but it does at least provide a set of descriptors.

"As education systems develop, teachers proceed through four stages of evolution.

1. 'The Dame school', with ill educated or untrained teachers - unorganised, relatively meaningless symbols, very narrow subject content - 3Rs, very low standards, memorising very important, untrained staff.
2. 'Formalism' with ill-educated but trained teachers - highly organised, symbols with limited meaning, rigid syllabus, rigid methods - one best way, one text book, external examinations, inspection stressed, discipline tight and external, memorising heavily stressed, emotional life largely ignored.
3. 'Transition' with better trained and educated teachers - Same goals as above but more efficiently achieved; more emphasis on meaning; still rather 'thin' and formal; syllabus and textbooks less restrictive, but teachers hesitate to use greater freedom; final leaving exam often restricts experimentation; little in the classroom to cater for the emotional life of the child.
4. 'Meaning' with well-trained and educated teachers - meaning and understanding stressed; somewhat wider curriculum, variety of content and methods; individual differences catered for; activity methods, problem solving and creativity; internal tests; relaxed and positive discipline; emotional and aesthetic life, as well as intellectual; closer relations with community; better buildings and equipment essential. [Adapted from a citation in Guthrie 1980:414]

Beeby hypothesises a causal relationship between teaching style and levels of teacher education, which includes the general level of education and the amount and kind of training teachers have received.

Harvey (1997:109) describes a number of attempts to use Beeby's model to inform in-service. He says that the resulting models are based on 'a changing sequence of teacher's concerns, throughout the implementation of an instructional innovation'. de Feiter et al (1995) combine Beeby's stages with a 'concerns based adoption model' conceived by Lousks and Hall (1977) to arrive at the model shown below [cited in Harvey 1997:109].

Stages of concern	**Levels of use**	**Levels of development**
non awareness	non-use	Dame school
awareness	orientation	
informational concerns	preparation	
personal concerns	mechanical use	formalism
logistical concerns	routine use	transition
concern for consequences to students	refinement of use	
concern for collaboration with colleagues	integration of use	meaning
refocusing on other concerns		

A further model, discussed by Harvey, looks at the processes involved in the acquisition of new learning from the view point of cognitive psychology. Norman (1978) and Bennet et al (1984) claim that there are 3 different processes involved in the acquisition of new learning (cited in Harvey 1997:110):

- Accretion - the direct acquisition of new knowledge and/or skills
- Restructuring - the reorganisation of new knowledge or skills into meaningful patterns
- Tuning - the process by which the use of new knowledge and skills becomes increasingly fluent and automatic.

They suggest that the three processes occur to some extent simultaneously, but the prominence of individual elements varies. They put the interaction of these processes in 4 different stages:

1. Incremental - discrete facts/skills accumulate : accretion predominates

2. Restructuring - once have new facts it is increasingly likely that new concepts will be perceived linking these facts : restructuring takes over

3. Enrichment - following restructuring there is a fresh demand for facts and skills associated with the newly developed structure: resurge of accretion

4. Practice stage - practise whole structure until it becomes automatic

A major implication from this, and other models mentioned in the literature, is that training for behavioural change needs to progress through a number of stages. In the above model these stages would include: transmission of knowledge; application activities; and supported practice in a familiar environment.

Stages of teacher development: the need for phases of teacher development, such as the *developmental stages* suggested by Joyce and Showers (1980) gains support from various models. According to Harvey (ibid), de Feiter (1995:91) recommends different types of teacher development activity for each of Beeby's stages.

Level of development	**Teacher development activity**
Unskilled	train teachers in subject matter and a few basic teaching techniques
mechanical	increase subject mastery training; introduce a few simple techniques to make teaching more effective and varied; increase confidence of teachers through training and school level support
Routine	Introduce more complex forms of teaching; promote professional exchange between teachers and career development of teachers
professional	teachers encouraged to view themselves as professional ; offer diverse staff development opportunities

The belief in *stages of development* would imply that training for teachers should recognise their present stage and try to advance them from this, and that there should be interim 'models' appropriate to each stage of development (Harvey 1997). Backing for this approach comes from Beeby who claimed it is wiser to concentrate on helping teachers to do better the things they are already doing than to try to switch to a radically different concept of education (Beeby 1986). Vygotsky's theories regarding the *Zone of*

Proximal Development and the need for 'scaffolding' have also been used to justify the belief that the focus of in-service at each stage should be just ahead of the existing stage of development (Harvey 1997). Harvey points out that many teacher education projects recognise one 'model of excellence' located at the final stage in the change process rather than a sequence of stages, each with specific goals.

Claims for the need for a range of different levels of in-service gain support from evaluation reports. Kinder and Harland (1991) found that if teachers were just presented with approaches to teaching, through practical experiences and model lessons during in-service courses, there was a danger that they would only implement what they had done or experienced during the in-service 'event', without extrapolating from it on the basis of understanding why and how they carried out the practical activity.

In a tracer study in Andhra Pradesh, John's (1993) followed teachers back into school after an in-service course. He provides an extreme example of a lack of extrapolation. During the in-service course he observed, one of the 'principles' being conveyed was that teachers should use higher order questions, what they interpreted as 'difficult' questions. During one session, the participants were given an unrelated list of questions as examples of questions which provoked thought. They were supposed to notice the difference between these and 'closed' questions. John found that one course participant went back to his school and simply gave this list of questions as homework. The children, parents and village elders then spent some time sweating over them. The participant's teaching continued as before. When the parents were asked if their child's education had changed at all they said that the teacher had started asking very difficult questions.

One stage of training identified as important by many writers is what Joyce and Showers (1988:69) label 'coaching'. This stage usually involves a trainer working with teachers in real classrooms. Joyce and Showers believe in the importance of a 'coaching' stage because they found that when faced with a new innovation, experienced teachers become temporary novices. They become awkward and anxious, and want clarity and tangible benefits. They may try a new approach or strategy but, when it seems less effective than their usual practice, they quickly reject it. Actually getting teachers to persist with an approach, beyond the initial 'novice' stage, was found to be a major obstacle. It was particularly difficult to get teachers to change when they had fairly dependable strategies already fully developed.

Joyce and Showers (op.cit) suggest that coaching alleviates anxiety and confusion. They felt that demonstrations in realistic contexts give a model to copy and to use for planning, and that team teaching, by sharing, reduced perceived risk from an innovation. On the other hand, Kinder and Harland (1991) found that having an expert around can increase anxiety. However, in studies where the main strategy is school based in-service, Joyce and Showers are much quoted about the advantages of 'coaching' teachers in classroom environments.

Approaches to in-service training: the relative effectiveness of different approaches to training have been debated frequently in the literature. The choice of approach depends greatly on the nature of the teachers, the context in which they teach and on the requirements of an innovation. For this reason a number of writers point out the possibility that approaches which appeared to work well in Britain prior to the introduction of the National Curriculum, could have little relevance in developing countries (Hawes 1977, Dove 1986, Gough 1989).

It has been found that the conditions in which teachers work in many developing countries only exacerbate the fact that they have often not received the same level of initial training in subject knowledge, educational theory and pedagogical practices as teachers in Britain. Neither is there the same supportive environment in their schools, in terms of classroom materials and accepted practice. Nor is there access to the same range of educational guides and teaching resources, all of which gave support to 'professional' teachers in Britain, support which also gave the training at the teachers centre a sympathetic base to build on. In developing countries, teacher autonomy and professional development often persist in the rhetoric about the merits in-service training. Yet, when the context is considered, it may not be appropriate for training to whole heartedly embrace such ideals.

Traditional training systems were often found to be unable to 'respond to the difficult task of training teachers to handle an increasingly complex process within an increasingly complex context' (Shaeffer 1993:188). Discussion of alternative approaches to in-service inevitably leads to the debate about to what extent teachers, per se, can be educated as 'professionals'. Shaeffer says that training teachers to use new curriculum materials and new approaches is merely producing 'technicians'. He claims that this does not provide teachers with 'the skills needed to master new content and subject matter, to learn appropriate and varied teaching methods, and to face the variety of pressures that confront them both inside and outside school' (Ibid.).

Zeichner (1983) identified four 'paradigms' for teacher education: behaviouristic, personalistic, traditional-craft and inquiry-orientated. The British teachers' centre philosophy in the early days probably linked closest with the personalistic paradigm. More recent approaches to in-service training, backed by educational theory, have moved closer to the inquiry-orientated paradigm. In practice today, however, in both Britain and the developing world approaches seem to be increasingly reflecting the behaviouristic paradigm.

In-service training for professionalism, i.e. the reflective practitioner, would have teachers recognise problems with the present curriculum and approach teaching/learning by reflecting upon and reshaping the context within which they work. Fullan and Hargreaves (1992:5) believe teacher development must actively listen to the teacher's voice: 'establish opportunities for teachers to confront the assumptions and beliefs underlying their practices; avoid fadism and blanket implementation of favoured new instructional strategies; and create a community of teachers who discuss and develop purposes together over time'. It is widely felt that teachers should be encouraged to participate in decision making and implementation. The South African project claimed to see the teacher as a partner in and an agent of change, not as something to be changed (Harvey 1997). They felt that teacher development was synonymous with increased participation in the planning, implementation and management of the programme. This way of viewing teacher education is very reminiscent of what Kahn (1984) believed should happen at the teachers' centre.

Training for the reflective practitioner vs training for the blue-print technician: in the developed countries, more participatory methods of developing teacher's skills and understanding are widely discussed in the literature. According to Shaeffer (1990, 1993), reviewing what he calls 'participatory teacher training', the typical characteristics of this approach include the teacher actively participating in the training process and being the 'agent' not the 'object' of change. Teachers direct their own learning by assessing problems and designing and experimenting with appropriate solutions. They define, exam and analyse the teaching/learning situation for themselves. This is a type of reflective approach which is widely advocated for post-service training following the work of Schon (1983). Teachers are to face up to the real situation confronting them in the classroom, rather than trying to extrapolate from generalities or universals. They are to work and learn co-operatively with other teachers and 'facilitators'. Through such an approach, training is supposed to become 'an integral and permanent part of teaching' (1990;98), rather than a series of unconnected training sessions which teachers often attend in a fairly arbitrary way.

Advocating a similar approach for developing countries, Avalos (1993:183) suggests that, in view of the many constraints and the nature of the job, in-service training in developing countries should 'allow teachers to examine reflectively their experience and the constraints they must endure, (training should) enable teachers to receive information and assistance as they plan the course of their practice'. She further suggests that the information 'is valuable only if it is presented as a choice and not as a prescription' (ibid). This type of approach could be considered ideal for a teachers' centre, at which local teachers, as Kahn proposed, could meet together regularly to work on their approaches to teaching. However, Avalos does not discuss how realistic it is to expect such a lack of prescription. Nor does she suggest how attitudes and expectations can be changed in the event of such an approach not readily being acceptable.

Their are reservations concerning the extent to which the 'reflective practitioner' approach to professional development at teachers' centres is appropriate for the expectations and experiences of teachers in developing countries. Andrews et al (1990) found that teachers in their study responded more positively to planned and formal rather than spontaneous and informal programmes. Shaeffer (1993:196) points out that teachers are not always willing to work with such methods, claiming that 'many are uncomfortable with group dynamics, self analysis and consciousness-raising' and that 'others do not have the time or energy required. Their salary levels may rarely motivate them to experiment with new and often complex methods'.

Gardner (1977:56) found that the group of teachers he worked with felt that 'egalitarian teachers' centres may only be possible in societies where teachers have a relatively long history of professionalism and autonomy'. They thought that teachers may not readily accept such a concept in societies which are highly stratified, where authority and control are centralised and knowledge and expertise are thought to be properly in the hands of superiors. In many developing countries moreover, they claimed that 'teachers lack professional status and confidence'.

The SHAPE project in Zambia seems to illustrate this point. It was forced to adjust its organisational structure to ensure that decisions were being made by people with traditional authority, thus reducing the influence teachers once had, often in regard to initiatives in which particular teachers had played a founding role (Chelu and Mbulwe 1994).

A further consideration in the debate about the benefits of 'participation' rather than 'instruction', concerns whether teachers need to reach a certain level of awareness, knowledge and skill before they can effectively participate and collaborate. McDonald and Rogan (1985) adopted a three stage approach: a security stage; a methods stage; and an aims stage. They believed that where teachers have low levels of initial training and education there is a need to build up the level of confidence before teachers can cope with an innovation. They suggest that meaningful participation only emerges in later phases of projects when teachers have achieved a level of confidence in handling the more technical aspects of the new approach to teaching

Based on the above models of change and stages of in-service training, the South African study (Harvey, 1997) suggests the need for a sequence of a 4 stage-specific instructional programme for teachers. Interestingly, only in the final stage are teachers expected to take initiative in and control of their own autonomous professional development and to engage in curriculum development at the school level. In the British context, and in the context of the way teachers' centres were 'sold' abroad, the teacher's centre was used mainly for courses for teachers who were at this final stage of development and able to take control of their own professional growth.

There seem to be clear reasons to question whether, at the present time, approaching the training of teachers by using reflective, participatory methods of professional development is appropriate, firstly when considering the contexts in many third world countries, and secondly to achieve the level and kind of changes in education often deemed necessary. Shaeffer (1993:196) suggests that it is a labour and time consuming method of training. 'Small group work, reflection, discussion , self learning, action research, none of these are particularly fast, efficient or inexpensive processes'(ibid.). He claims that where hundreds and possibly thousands of teachers 'need to be trained quickly in a new syllabus or a new method, these methods will not work'.

On the other hand, if Davis's (1994) cynical view of the need for 'inefficiency' rather than 'efficiency' in mass education is to any extent taken seriously, it is possible that teachers' centres, though they may only encourage a technological, prescribed approach, e.g. how to use new textbooks and the chalkboard better, do encourage a sense of well being and involvement amongst one of the largest body of employees in a country. As such they might be a very attractive option for Governments. By backing the growth of teachers' centres, ministries of education can show they are interested in improving both the quantity and quality of trained teachers while maintaining a fair degree of control over the curriculum. In this way they can maintain the status quo regarding access to the various levels of education in the country.

The teacher as a member of a group: studies looking at achieving change in schools have considered how best to approach teachers and their practices. Innovations in schools and schooling usually require additional inputs of the teacher's limited time and energy and an element of risk. Evidence from studies into risk aversion and decision making suggest that teachers are more likely to take up innovations if they do so as a member of a group or have supporting evidence from respected peers (Hurst 1983). Findings from other studies indicate that new teaching methods are only implemented in a sustained way once they have been proven in practice by a 'critical mass' of teachers, who mutually reinforce change through social interaction which in turn leads to a change in teacher culture. Dalin identified team spirit, in situations where teachers help each other, as one of eight characteristics of projects where implementation was considered successful (1994). He found that encouraging motivation and commitment, and increased empowerment through delegation, combined with staff development and support produces higher commitment among teachers (op.cit). Harvey's study in South Africa (1997), claimed that teacher collaboration can help reduce perceived risks of adopting innovative teaching practices. He quotes a number of studies which found that 'in schools with good professional dialogue and a collaborative work culture, teachers are more likely to incorporate new ideas from in-service programmes'. These studies suggest that the most radical improvements in schools are associated with mutually supportive teams of teachers who have shared goals and a supportive principal.

The belief in the benefits of treating teachers as a group rather than as individuals has had the effect in Britain of moving towards school-based rather than centre-based training. In Kinder and Harland's (1991) study of school-based in-service training in science, it was found that both teachers and head teachers supported this type of in-service partly because it resulted in more effective science teaching. More teachers participated in science and were more confident because the training was on 'home ground'; it was tailored to teacher's individual needs; teachers increased their awareness of pupils' needs; and more favourable attitudes to science were fostered. However, Kinder and Harland (op.cit p.6) also found that this school-based in-service had more wide ranging effects. They quote one head as saying that he found that this type of in-service fostered long-term corporate and co-operative attitudes, which facilitated curriculum development work in other areas.

Harvey's study finds justification and support for school-based in-service, particularly from Dalin's World Bank study of three successful projects (Dalin 1994). It sees classroom support and collaborative learning furnishing an appropriate context for the validation of new teaching methods and for the negotiation of meaningful educational aims. Dalin accepts that this type of in-service is expensive and labour intensive. Beeby (1986) recommends that if you can't afford this kind of support it is better to have a less ambitious but more effective project. Whatever the design of the project studies suggest that neglect of social dimensions of change may be at the heart of many widely reported problems relating to the sustainability of educational innovations.

3.3.4 Cascade systems of training

In attempts to make training far reaching and comprehensive throughout the education service, both developed and developing countries have increasingly looked to cascade systems of training. Typically, in this approach, a training package is developed by an education department, training college or donor agency. A hierarchy of levels of personnel are then identified and training of the same, tightly framed package is passed down through each level of the hierarchy, with the trainees at each level becoming the trainers for the next level down. Teachers at the bottom of the cascade often receive their training from their headteacher or a member of staff from their own school.

The cascade method of training has been used in a number of developing countries e.g. Zambia, Andhra Pradesh in India, Nepal, Thailand. In Zambia it was considered necessary because of the number of schools and teachers which needed to be covered by the new AIEMs initiative (Arusha 1996:84). However a number of problems have been identified with this approach. The problem of making sure centrally devised training modules do not become diluted as they progress down through the various training phases, thereby possibly losing much of their impact before they ever get to the teachers, is widely discussed. Putsoa (1983) found in his study of a number of countries that the process of infusion used for in-service 'aroused the consciousness of the inspectorate' but it was very slow in reaching the bulk of the teaching force and he implied that it had not yet brought about the 'anticipated education changes'(p.32).

Time available for such training can also be a problem, particularly where large numbers of personnel are involved. Hayes (1995) examining an ODA backed project in Thailand to improve English teaching (PISET), calculated that, at the bottom layer of a cascade to implement a new curriculum for English, teachers received only seven hours of in-service training mandated by the Thai Department of General Education. During this short time they were supposed to make the radical change from 'traditional lockstep' teaching methods to a problem-solving, process skills approach (p.255). He anticipated that, because the amount of training was inadequate, the network of English Resource and Instruction Centres, established as part of the project, would 'be used increasingly as a "remedial" training agent for the new curriculum' (ibid.) to make good the shortfall in training.

The system also relies heavily on various kinds of personnel being able to transmit the same ideas effectively. Workshop sessions, which move teachers beyond the stage of 'awareness', and in which teachers experiment with new approaches, need trainers who possess their own know how, not just the experience they themselves have recently gained from a course. Many trainers in a primary level cascade are secondary teachers. At the highest level, department personnel and inspectors may not have the relevant classroom experience needed to support the training of practical activities for the primary classroom. In such circumstances it might be considered easier to make the training more theoretical than practical. Also, within the school teachers in the role of subject coordinators may not have the level of status and authority necessary to influence their colleagues. Kinder and Harland (1991) found that the use of subject coordinators in the school to continue staff development in science teaching after the support from advisory teachers finished was not successful. They found that the co-ordinator's understanding increased and that their classroom practice changed, but very little of this was carried over into other classes.

3.3.5 Evaluating the outcomes of in-service training

Kinder and Harland (1991) present a framework that itemises what we might expect teachers to get from in-service training programmes. Different outcomes might be targeted in different types of programmes. It describes the different outcomes achieved through different types of in-service and suggests that, though all types of outcomes make some contribution to change, some outcomes are more critical than others for achieving real, long lasting change.

Material and provisionary outcomes. (materials of some kind) But, they felt these need an associated increase in knowledge and skills.

Informational outcomes. This kind of outcome tends to be short lived and has little or no impact on classroom practice.

New awareness outcomes. To have any effect, this needs to be matched against ones own pedagogical preferences and curriculum values and to be attempted in ones own established practice.

Value congruence outcomes. Looks at personalised versions of curriculum and classroom practice and how far these coincide with in-service messages about 'good practice'. Value congruence is identified as a major factor in subsequent classroom practice. It seems that acknowledging and solving possible tensions accruing from a teacher's sense of dissonance with prescribed practice should be part of the in-service agenda.

Affective outcomes. This outcome recognises the emotional experience inherent in any learning situation. Kinder and Harland found a strong correlation between limited impact on practice and negative affective outcomes.

Motivational and attitudinal outcomes. Enhanced motivation is was the strongest reported outcome during and immediately after in-service sessions. However, this outcome declines with time, though some participants can be motivated to study more. Continued follow-up and support might help, but enthusiasm is no substitute for deepened understanding.

Knowledge and skills outcomes. These outcomes signify enrich teachers' understanding of the tenets, principles and issues which underpin curriculum areas and classroom pedagogy. They denote deeper levels of understanding, critical reflexivity and theoretical rationales'. Short courses, with a limited input and approach to training, may relieve feelings of inadequacy and motivate for a short time, but in the end you still have the same teacher with the same style coping with the same constraints.

Institutional strategic outcomes. In-service can have an important collective impact on groups of teachers and that such corporate outcomes can have a constructive influence on teachers' efforts to change their personal, individual practice.

Impact on practice outcome. This represents the ultimate and most crucial outcome. All other outcomes are for the purpose of changing teachers' classroom practice.

Kinder and Harland (1991) attempt to order their 10 outcomes to indicate their interdependency and the complex nature of the whole enterprise of 'in-setting' to achieve 'impact on practice':

INSET

3rd order	Materials/resources	Information	New Awareness
2nd order	Motivation	Affective	Institutional
1st order	Value Congruence	Knowledge and Skills	

IMPACT ON PRACTICE

They hypothesise that 1st order outcomes are least likely to impact on practice if they do not include 2nd order and eventually 3rd order outcomes. Sustained impact on practice, i.e. new teaching behaviour is very rarely achieved and properly applied in classrooms if value congruence and knowledge and skills are absent in teachers.

4.0 Teachers' Centres As A Strategy For Teacher Development

In developing countries there seems to be a dichotomy between what teachers' centres are expected to achieve and the reality of how they work. The aims given at the Arusha Conference (1996:6) suggest that teacher resource centres are 'essentially strategies to provide professional services to teachers to enable them to perform effectively in their classrooms'. They should be 'places where professional and academic support is provided and where teachers discuss and solve their problems for the improvement of the quality of education'. Such definitions suggest that teachers' centres should be places where practitioners come to reflect and share their ideas.

Shaeffer (1993:191), on the other hand, suggests that in reality most teachers' centres are 'quite traditional in orientation, with experts on hand to provide more or less formal courses on new curricula, texts and equipment. Teachers come mainly for guidance, training and information'. The reality is that curricula, examinations and inspection are controlled by central government, and it is felt by teachers that there is very little room for manoeuvre, i.e. little purpose in centres to search for and solve one's own problems and attempt to initiate new ideas. Blackwell (1977) points out that these are barriers to local participation in curriculum development of the type usually advocated at teachers' centres (Blackwell 1977). Dove (1986:237) points out that even in countries like Britain, where professional self development was more common, many teachers 'did not accept and use teachers' centres for professional improvement'. She suggests that 'in countries where a culture of autonomous professionalism does not exist or where teachers are restricted by bureaucratic regulations from gathering together informally, teachers centres are probably not an appropriate strategy for in-service training'.

BEST COPY AVAILABLE

4.1 Concerns about the use of teachers' centres for training

Given the nature of change required by many educational projects, the level and status of teachers and the conditions in schools, it seems possible that an entirely different model for on-going training could be more appropriate for many countries at present. As in Britain in the last few years, when Kahn-like teachers' centres all but disappeared, it may be that simple 'training centres' are required. Ankrah-Dove (1977) felt two decades ago that training centres should be set up and named as such, rather than taking the teachers' centre model with all its associated ideas, hopes and promises, and then using it for other purposes. She warned that countries were 'in danger of advocating the setting up of teachers' centres and only then deciding on their purpose' (p.80). Gardner (1977) makes an interesting point which seems very pertinent to decisions about the use of teachers' centres as a strategy. He reflects that if the aim is to move teachers to increased professionalism, the training colleges would have to develop into a system within which the teachers' centre concept could come into play when teachers were ready for it.

A further concern about the approach taken by many teachers' centres towards training, was whether courses which encourage teacher self development can properly prepare teachers for the real situation they face in the classroom. Shaeffer (1993), quoting Avalos (1985), suggests that such training can stop at the stage of raised consciousness only, and may not 'provide enough content, methods and direction to help teachers deal with "the effects of poor material conditions of teaching , of pupil learning difficulties and of an often miserable wage structure"'(p197).

Further more, even if involvement in training at the teachers' centre does bring about individual changes in teachers, Haddad (1985) believes that this does not necessarily mean that teachers will be able to use their new skills or knowledge in a system based on different assumptions or be able to transfer them to a regular school setting. According to Oliveira and Farrell (1993:14) this view is supported by evidence from Lockheed, Fornacier and Bianchi (1989), who found that teachers who begin displaying behaviours in their schools that they learned in training institutions eventually switch to the prevailing behaviours of their colleagues. Dove (1986:224) also suggests that, 'although follow up studies are rarely done, it is likely that individual teachers, trained in isolation from others in their schools, are unable to use and disseminate new ideas and practices against the likely tide of institutional conservatism of their schools'. This effect seems particularly likely where in-service aims to change pedagogical practices in ways which are not reflected in the textbooks and examinations laid down by the government.

4.2 Evaluating the effectiveness of teachers' centres

Hoppers (1996:2) claims that professional support services for teachers 'have come to be seen as indispensable for an education system that wishes to maintain or promote quality, improve relevance, and increase efficiency in the use of resources'. However, as in the UK, there has been a general lack of reliable evidence to either support or deny the effectiveness of the various approaches to post experience training of teachers.

Andrews et al (1990:64) point to a sizeable literature on the topic of in-service training in developing countries. They suggest, however, that these studies are not very helpful in terms of evaluating the effectiveness of particular strategies because they are 'mainly anecdotal and authorised by the involved practitioners or do not present credible evaluations of the projects evaluated.' Farrell (1993:180) found that studies mainly looked at particular aspects of training rather than at making a comprehensive evaluation of the training process. Greenland (1984) found that although half of the sixty in-service activities they looked at had some form of evaluation, the 'dominant mode' was the end-of-course written questionnaire or question and answer session. He doubts the usefulness of this method considering how difficult it is to design questionnaires and that the expertise in designing them is often lacking. He also points out that teachers are not used to responding in this medium. He implies that for proper information about the impact of in-service sessions, there needs to be follow up visits to the schools.

Any discussion of the evaluation and impact of in-service work or of teachers' centres as a strategy, inevitably points to the many difficulties inherent in such studies. Schwarz (1985) points out that it is risky to assume that the effectiveness of an in-service training program will be revealed by gains in student performance because a number of factors - an incompatible curriculum, inadequate materials or facilities, resistance to change on the part of the principals - can preclude impact on student achievement. Greenland (1983:8), too, states that studies of the effectiveness of teachers are fraught with difficulties, not least the holding constant of countless intervening variables so that we can be sure that the training activity and the teachers subsequent performance in the classroom are causally linked.

Greenland also mentions a further problem when attempting to compare the effectiveness of different strategies. He notes how difficult it is to count the financial cost of in-service activities provided by teachers' centres over, for example training based at teacher colleges or institutes of education. There are so many hidden costs in the complex mix of teachers' time, cover for absent teachers (which never happens in developing countries), expenses, borrowing of staff and buildings. He claims that when searching for cost effective solutions such intangible costs add to the problem of evaluating one strategy over others.

Teacher's centres would seem to be cheaper, less demanding on trainers and less threatening to teachers in that they do not rigorously pursue change in classroom practice, as does, for instance, school-based training which is more labour intensive, intimate and costs more. However, it is problematic whether the impact of teachers' centres is worth the money being spent on them, or whether would it be more cost effective in the long run to aim for a slower more penetrating process of change and development.

Some recent evaluative studies of teacher resource centres in developing countries have focused mainly on how to improve centre management and the delivery of services including the presentation of training courses held at the centres, e.g. (Weir 1995; Shaw 1995). While such formative evaluation studies are valuable for helping to improve the efficiency of centres, the authors frequently comment on their frustration with not having been able to study the effects of the centres' work in schools. What is needed are summative evaluation studies that attempt to assess the effectiveness of the work of teacher resource centres in improving the quality of teaching and learning in schools.

CHAPTER FOUR

Teachers' Centres in Andhra Pradesh, India

Patrick Wiegand and Pankaj Jain

1 Introduction

1.1 Context

Primary Education in Andhra Pradesh (AP) is provided by both Government and private schools. There are approximately 45 000 government and 3 500 recognised private primary schools in the state. In addition, approximately 5 000 and 2 200 respectively, in the two sectors also have primary classes. The total number of primary teachers in Government schools is approximately 170 000, while total enrolment in primary classes is estimated to be in the range of 7 million children. The state government's annual budget for primary education is approximately seven billion rupees. State literacy levels are estimated to be in the order of 55% for males and 33% for females.

Primary education is the responsibility of the State Government, and it meets the majority of the necessary expenses, but occasionally the Central Government provides support for specific projects. The Andhra Pradesh Primary Education Project (APPEP), funded by the UK Government was one such, that provided support, over 1991-96, for improving teacher competence, and building school infrastructure. From 1996 onward, a new initiative, the District Primary Education Project (DPEP), has been initiated in five districts of Andhra Pradesh. DPEP supports a variety of activities, including support for the activities of Teachers' Centres.

All primary school teachers enjoy the same hierarchical level, and the senior-most teacher in a school is designated as head teacher. The head teacher has no administrative power over other teachers, although he or she keeps records and reports on the attendance of the teachers and decides, in negotiation with them, the time table and class schedule. The AP state Government follows the national norm of providing a primary school within 3 km of every residential locality, and has established schools in most villages in the state. The lowest administrative unit in the state is a Mandel, which might include 20-30 villages. All the primary schools in a Mandel are under the administrative charge of a Mandel Education Officer (MEO). The control of primary education in AP has been entrusted to local elected bodies, known as District (or Mandel) Parishads, and hence the MEO exercises administrative power under the supervision of Mandel Parishad Officers. Within the Education department, all MEOs report to a District Education Officer (DEO). Although a DEO is typically supported by three or four Deputy Education Officers, the latter are responsible for supervising only secondary schools. There is thus no other. hierarchical level in between DEO and MEOs. Given that a DEO may have 40-50 MEOs working under him, the effective control over their activities remains with the Mandel

Parishad. Each district has a District Institute of Education Technology (DIET) that is responsible for teacher training and providing technical support for all educational activities. The Principal of a DIET is hierarchically at the same level as a DEO.

Andhra Pradesh has a total of 1 100 Mandels in its 23 districts. Five Regional Joint Directors look after education administration in all of 23 districts. At the State level, all activities related to primary education are directed by the Commissioner and Director (School Education), who is supported by four Joint Directors. These officers look after state-wide operations related to Non Formal Education, Vocational Education, Elementary Education, and Administration. There also exist State Project Directors for special state-wide educational programs, such as APPEP and DPEP, and the office of the Additional Commissioner (Examinations).

The State Council of Educational Research and Training (SCERT) is the premier technical and professional body at the state level. SCERT is responsible for designing the syllabus and text books, and supervising teacher training and activities at the DIETs. SCERT is often guided by the advice of its counterpart at the national level called NCERT. There also exist many other colleges and institutions, affiliated to various universities, that offer B. Ed. and M.Ed. education programmes.

Most rural primary schools typically have 2-3 teachers, though up to 5-6 teachers may be in post in some semi-urban or large rural schools. Most schools normally have classes up to standard five, irrespective of the number of teachers or students. In Government schools, the text books are supplied free of cost to all children, but they have to buy notebooks, other school material and school uniform. At present, there is no provision of a midday school meal for students.

1.2 Teacher training under APPEP

All teachers in recognised primary schools are required to have completed a one year certificate course at a DIET. Typically, each DIET runs this pre-service course for 150 students every year. Thirty per cent of the admissions to the DIET are now reserved for women candidates. Admission to the course is through an entrance test. The syllabuses for this course are broadly similar all over India, though each state has some variation. The course design and training materials for the course are developed by the SCERT. The curriculum for current pre-service teacher training program in AP was designed in 1986, but is likely to be revised soon.

The DIET also periodically runs in-service training programmes, mainly for resource teachers, who along with Mandel Education Officers and DIET staff then conduct in-service training for school teachers, at the Mandel level.

APPEP was a major initiative to improve the training of teachers and provide an ongoing mechanism for professional development. Under this program, a 12 day initial training module in six APPEP 'principles' was organised for all Government primary teachers. This programme was meant to train teachers in (i) providing teacher generated learning activities, (ii) promoting learning by doing, discovering and experimenting, (iii) developing individual group and whole class work, (iv) providing for individual differences, (v) using the local environment, and (vi) creating an interesting classroom by displaying children's work and organising it effectively. The initial 12 day training was followed by a 3 day refresher after a gap of around three months. Approximately 150,000 teachers were covered in the state under this programme from 1991-96. The training was organised on a cascade model. For conducting teacher training, 3-4 resource teachers, called as Mandel Resource Persons (MRPs), were identified in each Mandel. MRPs and Mandel Education Officers were given a 12+3 day training course by DIET staff to prepare them for conducting the 12 day training package for teachers. DIET staff were given a training of 12+3+3 days by the APPEP State Resource Team to prepare them for training the MRPs and MEOs. Most members of State Resource Team were senior teacher trainers in the State and they were also sent to UK for a three month training in APPEP principles. The core 12 day module was identical in all such training programs. This approach was adopted in an attempt to ensure that the basic 12 day training module developed and administered by the State Resource Team to the DIET staff was transmitted to all the teachers with minimal transmission loss. This pattern was different from the typical practice of previous in-service training programmes, where the preparatory training of MRPs or DIET staff had been confined to 3-4 days in order to provide orientation in outline requirements, leaving them some discretion over the actual transaction of content.

Andhra Pradesh has had few resources for supporting the in-service training of teachers. In the last decade, all in-service training has been conducted under some central government programme, for which the focus, as well as the training material, was drafted by NCERT. The views of NCERT are shaped by the general requirements of primary education throughout the country and not as per the specific needs of any particular state. In 1996-97, under a national programme (SOPT), all teachers were given a one week course to train them in the requirements of the so-called 'minimum learning levels' (MLL) stipulated as a part of national curriculum. Some attempt was made by SCERTs to adapt such programs and material to their current needs, but this remains limited in scope as a result of the inevitable time pressure. For example, SOPT was implemented as the first in-service program after APPEP, but the SCERT in AP was able to adapt national guidelines to only a limited extent in order to integrate the six APPEP principles into the SOPT training. The in-service arrangements for APPEP were an exception to the national pattern as this program was limited to Andhra Pradesh and the training was designed by the APPEP directorate.

APPEP supported large scale investment for upgrading the capability of resource people at different levels. This included the training of more than 150 people, mostly DIET staff and the State Resource Team, in UK universities for a 3 month period. It is, however, not very clear to what extent the APPEP approach has been integrated in non-APPEP training programs conducted by DIETs, such as the one year pre-service training of primary teachers.

1.3 Teachers' Centres and their role under APPEP

There is a tradition of Teacher Association Centres in India, initially conceived as forums for professional interaction. In time these became places where teachers mainly met to talk about conditions of service and Government circulars and policies. Teacher Association Centres thus became more like Teacher Union Centres, with trade union aspects dominating their activities.

A major element of the APPEP strategy was to establish Teachers' Centres (TC), that were to act as the forum for professional interaction among teachers. The TC was expected to provide space and opportunity for teachers to exchange experiences, develop materials and to enable the message of their initial APPEP training to be reinforced. 'Teachers' Centres act as platforms where the experiences of the teachers are shared amongst themselves, which helps them to grow professionally' (Gopal Krishnan, Teacher training strategy paper). Approximately 4800 Teachers' Centres were established under the programme, each catering for about 30 teachers. Teachers Centres were established as part of a larger primary school in a cluster of 7-13 schools, the head-teacher of which was designated as the Secretary. At least one teacher in this cluster would be an MRP, selected and trained for conducting the in-service training of teachers, but that person was not necessarily made the secretary. An assistant secretary was also chosen from among the teachers. This person was often an MRP. As such the Secretary or Asst. Secretary were to have no formal power; their role mainly being a facilitator in organizing TC meetings. It was originally conceived that the Mandel Education Officers would be present at most TC meetings, and a member of the DIET staff would attend at least 1-2 meetings at each TC every year. Towards this end, four members of staff at each DIET were specifically appointed for attending TC meetings. It was later recognised that the MEO's attendance at TC meeting was rarely feasible due to other responsibilities, and dedicated DIET staff participation at TC meetings has also been discontinued in the post-APPEP phase.

Under APPEP, approximately 1100 Teachers' Centre buildings were constructed, each comprising a large meeting room, and an adjoining small office room, fronted by a verandah. On days other than TC meetings, this room was used mostly as a staff room or class-room, and occasionally for hosting other meetings such as parent or Village Education Committee meetings. Where new construction did not occur, any one room in the school was used as the Teacher Centre. All the teacher centres were given an initial grant of Rs. 2000 to purchase various items such as lockable cupboard space and some teaching materials. Another Rs. 2000 were given every year to purchase consumables that could be used to make teaching aids. Each school was also given a grant of Rs. 500 per year for purchasing consumables. Teachers were also given a small amount to cover their travel expenses for attendance at meetings.

TC meetings were to be held six times a year. On the day of the meeting, all the teachers' schools remained closed, in order for the teachers to attend as part of their official duties. A standard schedule for the TC meeting was laid out under the program. The meeting was to start with the display of any new teaching aids that had been made by teachers after the previous meeting. Later in the morning, two teachers were to present a model lesson each on topics of their choice. The display of materials and the model lessons were to be commented upon by all teachers and written and oral feedback was to be submitted by each teacher. The afternoon session of each meeting was devoted to group work among the teachers, where they were to prepare sample lesson plans and some relevant teaching resources. For group work, teachers were divided into according to school subjects. Each meeting ended by selecting two teachers who would present model lessons at the next meeting. The selection of teachers was to be by rotation among all the schools and the lesson content chosen to cover all the primary subjects, but each individual session topic was the responsibility of the volunteer who was to teach it. In some meetings, a lecture was given by a teacher on a topic of common (general) interest. Although the school remained closed on the meeting day, students from one or two classes of the TC school were asked to be present in the morning so that the model demonstration lessons could be conducted in real class-like settings. The presentation of the model lesson, preparation of lesson plans and related teaching aids were all expected to demonstrate 'best practice' according to the six APPEP principles and thus continually reinforce the original training.

1.4 Post APPEP developments

The Government of Andhra Pradesh gave a commitment that it would continue to support TC meetings beyond the end of APPEP in the form of annual grant of Rs. 2000 (c£36) towards the purchase of consumables for preparing teaching materials. The DPEP program has also decided to continue all existing TCs, strengthening them and adding more. As a result, not only was each TC to be given an annual grant of Rs. 2000, but each individual teacher was also to be given Rs. 500 per year towards the purchase of teaching material. In addition, each school was given Rs. 2000 annually to improve its facilities. During 1996-2001, DPEP was being implemented in five districts with ODA support, and it was planned that the remaining districts in A.P. would be covered under DPEP with financial support from World Bank and UNDP/ UNICEF.

Under DPEP, a further mechanism for teacher support is being established, that of the Mandel Resource Centre at which is to be based two permanent Mandel Resource Persons. These, along with the MEO, will be responsible for conducting Mandel level training and providing class-room support. It is expected that MRPs, unlike the MEO, will be able to attend all TC meetings.

2 The study

2.1 Visits and methodology

Patrick Wiegand (PW) and Pankaj Jain (PJ) visited Andhra Pradesh on two occasions of two weeks each in 1997-8, after holding planning discussions earlier in Leeds. PW and PJ undertook a shared programme in September 1997 to establish common methodologies and procedures and then undertook separate visits in December 1997 (PJ) and January 1998 (PW) in order to enlarge the possible range of observations.

We held meetings with the director of DPEP and DIET staff at Hyderabad and visited project staff, TCs and schools in Warangal, Karimnagar, Kurnool and Vizianagaram districts.

The limitations of this study should be noted. Time available was too short for a thorough investigation. Our visits to schools and teachers' centres were generally accompanied by education officials and by members of the Village Education Committee. Interviewing was often more public than we would have wished and it was rarely possible to conduct interviews privately. This must have influenced our interviewees' responses but we cannot say to what degree. We worked through the medium of interpreters and could not always rely on precision in translation. We did not select the schools or centres we visited and cannot rely on the representativeness of our sample of centres, schools or teachers. Teachers had had ample notice of our visit in many instances and so the teaching we saw had presumably been specially planned. We suspected that in some cases a previously learned model lesson had been rehearsed for our benefit out of the normal teaching sequence. This may be less problematic in a teaching culture which tends to regard individual lessons as separate units, but this in itself is a factor mitigating against learning as a continuing process, building on prior knowledge.

Nevertheless, we did see, between us, all or part of some 60 lessons and spoke individually or in small groups to approximately 150 teachers.

2.2 Physical condition of schools and TCs

Of the 30 or so schools that we visited, only three had an adequate number of class-rooms to accommodate each of the primary classes independently. In other cases, either more than one class shared the same room or classes were held in the open air or on the verandha. There was no furniture in the classes and children generally sat on the bare floor, which had no matting. The physical separation between children was often of the order of only one foot and the gap between rows barely provided enough space to keep a school bag, which was usually used to support notebook or slate. In some classes, a chair and a table for the teacher was provided. Given the limitations of space, children were sometimes sent home when rain prevented lessons taking place outdoors.

Most schools did not have electric lighting or fan in the classrooms. In a few cases, there was a fan and light connection in a room used by teachers as an office but, because the electricity bill had not been paid (there were no funds for electricity in the school budget) the supply was cut off in many cases. Most schools did not have any toilet facilities, either for boys or girls (and in some cases, for teachers), and the drinking water too was not available in a large majority of schools.

School classrooms

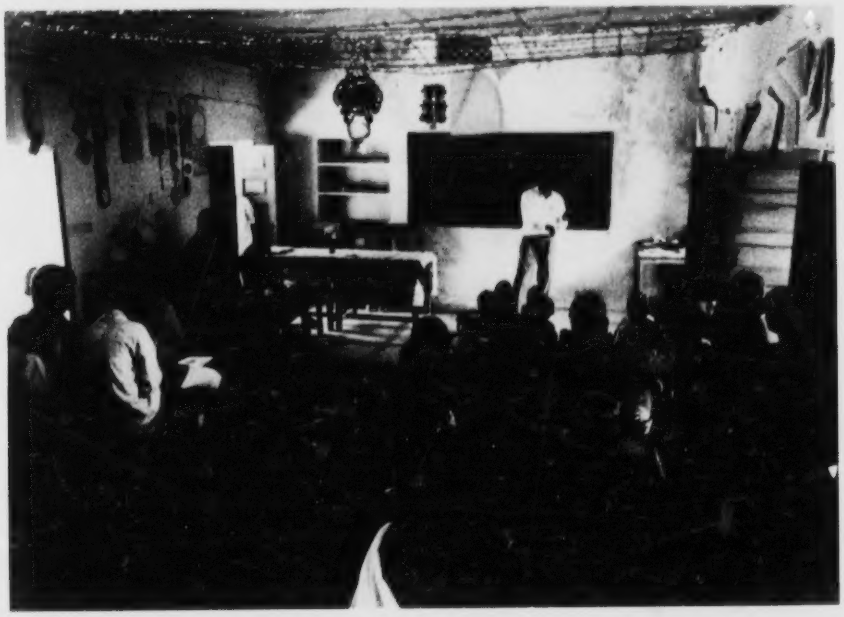
Classrooms in Andhra Pradesh are generally crowded. Children usually sit on the floor and there is little space for school books. Class sizes are large and there is a shortage of classrooms. Classes that must be taught outdoors are cancelled in rainy weather.

The teachers' centres we saw were constructed from brick or concrete and roughcast rendered. The floors were stone or tile and the interior wall plaster was generally sound. Although headteachers reported other parts of the school building where the roof leaked, the rooms used for the teachers' centre were waterproof. Windows were open air, barred with shutters. Overall, the condition of the building or room used was generally satisfactory. Where a school classroom was used it was generally the largest school room and in the best condition. Only one teachers' centre we visited provided staff toilets. Of those centres that had access to electricity supply, only three were still connected. There had apparently been no provision for payment of the electricity bills. All centres had water, obtained via a borewell.

One centre reported theft of all the materials provided by APPEP. There appeared to be no contingency fund to replace materials lost or stolen.

The centres we saw provided accommodation for 25-30 teachers. Although a few centres had wooden benches, most meetings were conducted with the teachers sitting on a large mat or rug on the floor.

The teachers' centres served up to 5 schools, the most distant of which was 8km. Teachers made the journey by bus or cycle or on foot. The longest reported journey was 1.5 hours but most teachers seemed to be able to get to the centre in half to three quarters of an hour. In theory teachers are reimbursed for their travel costs although there had been discontinuity in this arrangement which appeared to account for irregularity of some meetings.



Teachers' Centres in Andhra Pradesh

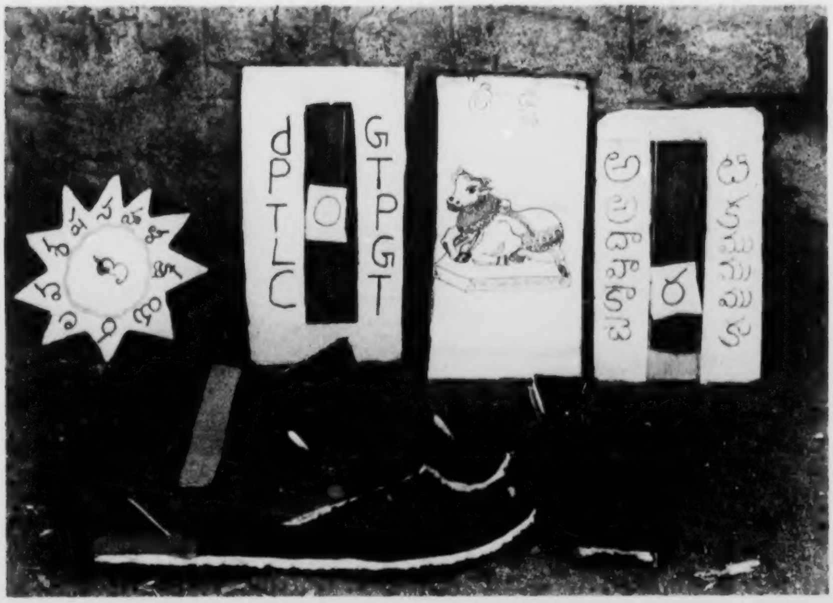
Teachers' meetings are generally held in one of the better school classrooms. Some centres have benches but for most meetings teachers sit on the floor.

2.3 Teachers' centre resources

The teachers' centre are generally open when the school is open, i.e. usually 6 days per week. As all school times are roughly the same it would not be convenient for a teacher from another school to visit and look at or borrow materials at a centre and there is no mechanism whereby travel cost can be reimbursed other than for the official teachers' meetings. One school kept a log of teacher-made items borrowed. We saw no evidence of any teacher books available for borrowing. Materials are ordered by the secretary and/or assistant secretary with in most cases the approval of the teachers. As an illustration of how far the money might go, an A2 sheet of card costs approx. 2Rs and a similar sized sheet of thermacol (polystyrene) costs about 4Rs. There are no catalogues to order from and materials are either bought in the nearest town (cheaper but with added transport costs) or locally (expensive). The sums involved are small and there is not an established culture of ordering supplies.

We saw no books other than sets of school books which were either used by the teachers' centre school (although we observed very few lessons where texts were actually in use) or which were awaiting collection by nearby schools. There were no books for teachers, method or higher level texts. Each teachers' centre meeting room had a plain blackboard in reasonable condition. We saw the beginnings of some useful wall decoration, for example, telegu letters on a boundary wall, some maps of India or the locality. In a few classrooms there were improving slogans on the wall. One centre had a colour television and VCR. Most materials held at the teachers' centres were made by teachers at their meetings.

Exhibit 3 illustrates a typical range of materials produced. These appear to be characterised by their sameness. Many were modelled on content derived from a seminal training course. The lack of variety was perhaps disappointing in that we were relatively quickly able to predict what we would find in schools and centres and reflects the prescriptive nature of the curriculum. For example, every school we visited had a teacher-made polystyrene heart and lungs visual aid.



Teacher-produced materials

Teacher-produced materials include wallcharts, polystyrene models and a few interactive displays.

Only one school had any artwork on display simply for its aesthetic appeal. This was in the form of cut-out friezes from tissue paper. Some Teachers' Centres had commercially made wallcharts. Some medical charts were also observed but these were usually pitched at a level a considerable way beyond the capacity of the children to understand the text. Occasional world maps were to be seen and a very large number of pictures of India's national heroes. 'Low cost. No cost' materials formed one of the most pervasive elements of teachers' centre culture. This slogan was much in evidence at meetings and in discussions with teachers and the materials we saw reflected this philosophy. For example neoprene tubing was used to represent blood vessels in biological models and rubber offcuts from sandals were used in various ways to produce number aids.

There was quite a lot of evidence of classroom learning materials using natural materials. Tamarind seeds, sweet corn kernels, pebbles, etc. were used to trace the outline shapes of letters and numbers. Modelling clay was made from local soil. Some tactile charts showing materials for clothes had been constructed and fruits and vegetables were used for sorting and classifying. The teachers centre room also served as a store for children's work. This deteriorates rapidly in the hot damp climate. Gestetner duplicators had been supplied in some cases but these appeared to have received very little use. In many cases centres still had the original paper allocation, often by now in a poor condition.

Use of natural materials in the classroom.

Natural materials are used for sorting and classifying. Seeds and pebbles are used for tracing the outline of letters in telegu.

2.4 Teachers' centre meetings

The basic principle of teacher training under APPEP is: 'that in-service training is a continuous or ongoing process, rather than a single intervention or a series of one-off interventions. The end-point is the establishment of teachers' centres at which they discuss problems, seek solutions, learn from each other and from resource persons such as Mandal Education Officers, Strong teachers (MRPs), staff from DIETs etc.' (Gopal Krishnan, Teacher training strategy paper)

Under both APPEP and DPEP, it was conceived that each TC would hold six meetings every year. Our review suggested that till 1994, such meetings were held regularly. It has been reported that due to administrative difficulties, the channelization of annual grant of Rs. 2000 was disrupted during the last two years of APPEP in 1995-96. Due to budgetary constraints, it was also difficult for the Government to process the claims of teachers for expenses incurred to attend TC meetings. As a result, TC meetings were not held regularly in 1995-96, but have been resumed in 1997 with the resumption of support under DPEP. Most teachers travelled by bus and on foot. The furthest journey was 8km and the longest 1.5 hours.

The attendance of Government primary teachers at TC meetings has been fairly regular. The teachers of recognized private primary school are also required to attend TC meetings, but their attendance is rare and representational, mostly to satisfy the MEO, who has inspectorial power over them. Attendance at TC meeting is officially mandated for Government teachers, with the school formally closed on the day of TC meeting. An absence from these meetings has to be, therefore, officially recorded. We however noted some cases of absence, and also an administrative arrangement that could contribute to teachers' absence. The dates of TC meetings are typically decided by the MEO, who informs the TC secretary about it. Since the TC secretary has limited support and there are no telephone/ telecommunication links with the schools, the information about the TC meeting date sometime does not reach all the schools. This contributes to teachers' absence from TC meetings. Still, the attendance at TC meetings was in the range of around 90%.

Our review also revealed that record of TC meetings were regularly maintained. The minutes of TC meetings suggested that the laid down schedule of day long TC meeting, comprising of model lessons, material display, lesson plan preparation and teaching material preparation, was followed.

Exhibit illustrates a model lesson at a teachers' centre meeting. This was probably the best lesson we observed, the only one with any spark of originality. It used local materials, had its starting point in the local environment, made use of group work and activity based learning.

'The Coconut tree'. A Teachers' Centre model lesson.

The children sang a song they knew about going to the forest and collecting coconuts. Then the teacher took the children outside and asked them to identify about a dozen different plants and trees (each at different stages of growth and including a dead stump). The last was a coconut tree. How high did they think it was? A boy climbed the tree with one end of a tape and they measured its height. Back in the classroom teacher and children read about the characteristics of coconut trees such as where they grow and what they are used for. Complex words from the textbook in Telegu were then compared with their simple, everyday counterparts by matching cards.

The teacher's key question was: 'What can we do with the coconut tree?' In groups children used parts of the tree to: make mats (using the green leaves), rope (using the fibres), sweepers (using dead leaves) and food (by collecting milk and grating the flesh with a grinder). The teacher then expanded on each of these by questioning children about the properties of each of the products. e.g. children described the rope they had made and its properties and uses (it was strong and could be used to tie a bucket to get water from the well). Learning was consolidated by completing a structured summary sheet after which they were required to produce some independent free writing.

After the demonstration lessons, teachers were invited to stand up and give their evaluation of the lesson they had observed. Notes were also written by teachers on the lesson and these were collected by the secretary. No structure was provided for observations and there was no clear indication of what happened to the reports or how the information they contained could be used by participants. The observations made by teachers were generally bland ('the lesson was enjoyable'). In many of our discussions with teachers, few teachers could go beyond a concrete level of lesson analysis that (e.g.) the lesson used no cost/low cost materials.

Teachers views about the usefulness of the centre meetings were generally positive. When asked, they all said they found the meetings helpful although very few could give an example of something they had learned at the meeting that they hadn't hitherto known. Those that did provide an example referred only to the topic in a general way. This may have been because they were too shy or anxious to tell us what they really thought about the meetings or that they are unused to critical reflection. At the end of one meeting some of the women teachers eventually became confident enough to state vigorously that they thought the APPEP principles required too much work and that they only rarely taught in this way. Nevertheless, motivation at meetings appeared generally high. At two separate TC meetings one teacher sang a song about DPEP he had composed and the others joined in the choruses.

Teachers could only say that the TC was of help in a very general way. We found few examples of teachers independently developing principles derived from the TC meetings although several examples of individual lessons replicated or illustrations copied. Teachers' views about the centres were generally positive. When asked, all the teachers we spoke to said they found the meetings helpful although very few could give an example of something they had learned at a recent meeting that they hadn't hitherto known. This may have been because they were too shy or anxious to tell us what they really thought about the meetings or that they are unused to critical reflection.

TC meetings appeared not to have been effective at the level of planning in a time frame longer than one lesson. We found no examples of school staffs working together outside of TC meetings to create materials appropriate to their own situation. It seems to us that mechanisms enabling schools to become self sustaining centres of innovative practice are under-considered.

The role of those providing support to participating teachers needs further consideration. The assistant secretary is elected by the group and in many cases seems more professionally knowledgeable, committed or at least better placed to conduct the meeting than the secretary who is the head (i.e. simply the longest serving teacher) of the host school. MEOs and BRCs showed little sign of active intervention or guidance at the meetings we attended. We suspect that without skilled intervention TC meetings are unlikely to develop professional skill further. We identify an important role for BRCs and MEOs as catalysts to professional development. They need fully to understand the project principles and have a deeper level of understanding than the teachers. Their access to a small discretionary sum to pump prime good local initiatives may be a helpful strategy but this could be set with other difficulties.

2.5 Tracer activities in schools

2.5.1 Providing teacher generated learning activities

At the time of our visits, teachers were grappling with the classroom implications of the Minimum Learning Levels (MLLs). These are primarily expressed in terms of subject content whereas the APPEP 'principles' are characteristics of pedagogy. In theory the two should (and could) mesh together in a complementary way. In practice we found they were perceived as two separate peaks to be scaled. Of the two, the MLLs appeared to be seen as the higher priority. Consequently we were aware of a pre-occupation with content, transmitted in a rather routine and traditional way. This effect was compounded by the definition of MLLs as outline statements which were not greatly added to by teachers. For example we observed a number of lessons dealing with tools people use and local services (such as the post office). The lesson typically consisted of teachers asking children to say what tools were used by several common occupations and perhaps sort or match cards with tools and occupations. It seemed unbelievable to us that the children concerned did not already know which tools matched each occupation and thus the lesson became self-serving rather than deepening the children's understanding of the world. In relation to the Post Office, children might for example have placed first and second class letters, aerograms, telegrams, phone calls, etc. on a graph showing axes representing time and cost in order to determine the nature of the relationship between these two variables and how it could be represented graphically. Instead they simply learned that there were a number of possibilities of communication. In many cases the lessons appeared designed for the teacher's benefit (e.g. smooth organisation, simple steps, tasks that don't involve interruptive questioning) rather than the children's. Again, this characteristic of much education is not confined to the situation in AP.

A notable exception was the use made by teachers in a group of schools meeting at a TC of masks (Exhibit 6).

Using masks in teaching and learning.

S.P. Renukabai, a teacher at Penchikalupadu primary school, near Kurnool in Andhra Pradesh, India, had a brilliant idea. If she made masks from cardboard and string the children in her class could use them to perform short plays about animals. Writing the plays themselves would teach the children more about the habits of the animals, what they ate, how they lived and how people use them. S.P. Renukabai's school is a Teachers' Centre. On one day every month a group of 25 teachers from 6 primary schools come to share their ideas and develop classroom materials. S.P. Renukabai taught a model lesson for the other teachers in which the children used masks. Soon all the schools in the cluster had taken up the idea, adapting it to suit their needs.

2.5.2 Promoting learning by doing, discovering and experimenting

Most teaching we observed relied heavily on a formula consisting of teacher talk with recall questions and an oral 'complete the gaps' technique. We had the impression that teaching was pitched at too low a level and that the function of many lessons was to supply definitions of in some way codify knowledge and understanding the children already possessed.

Some lessons contained pseudo or quasi activity. This was often in the form of demonstration to others. For example in a lesson on the senses the teacher demonstrated tasting salt and sugar, smelling naphthalene balls, feeling knocking and pinching etc.

These simple experiments might easily have been adapted for the children to undertake themselves and could be regarded as a lost opportunity for interactive learning. In another lesson, children observed the effect of water pressure on jets of water issuing from a tin pierced with several holes at different heights. The teacher conducted the experiment, there was no questioning or problem solving required by the children. They observed passively and made a copy of a drawing of the experiment.

We saw some evidence of practical work but only one instance of practical work taking place (that described in the coconut tree lesson above). Several children in some classes had made models outside school and brought these in to class. One child for example, the son of a carpenter, had made at home wooden examples of the tools described in a recent lesson.

Tools and materials available for practical work were very limited.

Feedback was generally positive and generous but we suspected that only the most able children were questioned in our presence and perhaps as a rule. In all cases the children were extremely attentive and in many cases showed boundless patience with their teachers.

2.5.3 Developing individual group and whole class work

The basic approach to teaching was almost universally whole class yet groups were established for at least part of the lesson for approximately half of the lessons we observed. A common pattern however was for the teacher to arrange children in heterogeneous groups in order to complete a question or exercise provided on a sheet of card. In most instances, the child who received the card completed the answer or recorded what was required whilst the other children observed. There was no or little interaction. When challenged with the observation that this method of teaching was more expensive (the cost of the card) and involved less intellectual processing by the class (only the group representatives did the work) the teachers almost all responded that these were APPEP principles, without showing any evidence of understanding the underlying rationale for group activity.

Group work.

We saw much evidence of group work and yet in most cases the activities would have been more effective if the class had been organised for whole class teaching.

Although group(leader)s reported the results of 'group work', in plenary session we saw no instances of reformulation of problems, revisiting tasks at greater depth or levels of understanding. Progression from simple one word completion exercise to answering in sentences was however well established in the ordering of group tasks.

Some teachers involved individual pupils in the lesson in a way similar to 'contestants' in a game show. For example, one boy sorted number chips in ascending order as the others watched. Although limited in the amount of interactivity it involves, this seemed a fairly effective strategy.

Understanding was often consolidated by the teacher writing definitions and examples on the board which the children copied into their notebooks. For example, 'In ascending order, numbers get bigger . . ', etc.

The whole class teaching we observed was sometimes extremely effective with teachers maintaining the attention of children for long periods of time with few materials or aids other than their own voice and a blackboard. We saw many teachers working with large classes with few resources. As resource provision will not significantly increase in the foreseeable future it seems to us that more could be done to build on the skills that teachers already have under present circumstances, as well as to develop new skills for resource-based teaching.

A substantial issue for many teachers is the failure to have a satisfactory strategy for dealing with multigrade classes. The only way of dealing with the situation for many teachers is to teach one class whilst the children in the other sit passively to one side of the room.

2.5.4 Providing for individual differences

Questions were targeted at individual children but it was difficult to assess whether the questions were consciously adapted to pupil differences. There were records kept of children's attainment. These were generally based on test performance in each subject and recorded on a sheet which was sent termly to parents. The testing however was coarse grained. Few or no records were kept of children's individual progress or learning difficulties. Teachers were able to identify skilled learners but not characterise the nature of individual's learning difficulties. As the children receive no systematic eye or hearing tests it seemed likely to us that there would be several children in each class who may have (at least minor) visual or hearing impairments that had not been recognised.

We saw no explicit instances of differentiated activities for children of different levels of ability or experience.

2.5.5 Using the local environment

Although there was use of local materials in many classes as substitutes for apparatus (for example beans and seeds used as counters), we found very few instances indeed of the materials being displayed for their own scientific investigation. There were no nature tables, collections of rocks or seeds, berries, leaves, fruits, minibeasts, etc. We found the typical explanation that these materials rapidly decay in the hot and wet climate unconvincing.

2.5.6 Creating an interesting classroom by displaying children's work and organising it effectively

Children's work was generally displayed in the TC room in TC schools and in non TC schools one room was often used as a repository for children's work and other illustrative material as well as small supplies of equipment including maths apparatus and science equipment. There were displays of teacher made charts and posters in some classrooms as well as children's work but in almost every case these were placed at a height well above the children. They were generally mounted on strings and difficult to see or read.

Common examples of displays included polystyrene models of vital organs and body parts, transport, mathematical aids such as number lines, number chips, painted stones and animals. There were some examples of commercially produced 'moral story picture charts', wall maps of India and the world, anatomical diagrams, drawings of national heroes and former heads of state. Only a very few schools had display in every classroom. In some cases the rationale for the means of illustration appeared to have been lost. For example, the visual potential of thermocol had been demonstrated by DIET staff as capable of being shaped to give a 3D representation of human organs (kidneys, lungs, etc.). Several teachers had created displays, however, in which the outline only of the organs had been cut, giving right angled edges to the 3D shape. This seemed at best to underutilise the medium's potential and, at worst, create a misleading impression of the true shape of the subject matter.

Children's work where displayed was sometimes bundled together making it difficult or impossible to see. There were in any case few opportunities for children to spend time in or out of scheduled time to look at these materials. We saw almost no instances of interactive materials. For example, there were several maps of India and the locality but no available lengths of string that could act as a scale and be used to answer questions such as 'Is it further from X to Y or from X to Z?' Almost none of the displays were labelled interrogatively (e.g. 'How many legs does a beetle have?') and their potential was thus limited to passive illustration. Where there was potential for interactivity (e.g. an advent calendar type of chart and a rotating letter wheel for constructing words) these appeared only to have been used in an illustrative way by the teachers who had made them and not by the children for their independent use.

Display of work.

Display and storage or work varied from the ordered to chaotic. Much display was placed at a level too high for children to read.

The class-rooms typically had a black-board set at a height that was suited for teacher's writing on it in a standing posture. Given that the children sat on the floor, they had to continually keep the chin up/look up to see what was written on the board. There are apparently no regular eye sight tests and we did not see children using spectacles. There are likely therefore to be children who cannot adequately read text written on the board.

3 Conclusions

3.1 Evidence of beneficial effects of TCs

The TCs do provide an opportunity for professional interchange (as well as an opportunity to cast scepticism on project aims) in a situation where schools are physically remote. The value of enabling teachers to informally match their understandings, attitudes and skills against those of others in the area is difficult to assess or measure. We believe nevertheless, that the meetings are an important prerequisite for the development of a professional culture. The way that culture is shaped, however, depends on the nature of project steering interventions as well as the development of self-steering strategies by teachers in their TC groupings.

Meetings appear to be structured in the way recommended by the project and records are kept of teacher attendance and activities undertaken. All the centres are accessible to the teachers and the accommodation is adequate for the sizes of the groups, although there is shortage or absence of furniture. The teachers appear generally to be prepared to make the most of the limited facilities. We saw several examples of high levels of teacher motivation or attempts to sustain motivation. For example, at one teachers' meeting, a teacher sang a song he had composed about the project and its aims. Its purpose appeared to be to raise morale and create group identity. This appeared strange to an outsider but was well received by the teachers present.

Model lessons are taught at the teachers' centres to real children although the classroom situation is rather artificial and, because space for the observers is needed, the classes tend to be small and biddable. Nevertheless, there is value in the sense of realism achieved despite it being inevitable that (especially if he/she is from another school) the teacher will not know the characteristics of individuals the class. This is an interesting practical difficulty for a project which included amongst its intentions the recognition of, and sensitivity to, individual differences.

Attendance rates at TC meetings appear to be high, although it could be said that this is one of the few occasions when teacher non-attendance is highly visible.

In some cases (for example, the lessons using masks) we observed transfer of APPEP principles through the TCs to the classroom. Example of original teacher-led innovation were however rare. More common was repetition of 'validated' lessons and materials which had originated in the initial training programme. It may be, however, that this cloning stage is a necessary confidence-building precursor to deeper professional understanding and innovative practice.

Class teaching may be said to be a little less dull as a result of the teaching strategies devised or discussed at TC meetings. There are materials on at least some classroom walls and always in at least one schoolroom, although the extent to which that 'storage' room is used by the children is not clear and they have limited opportunity to access the materials outside lesson time. Materials are generally too high for children to see properly, or interact with, and many classrooms remain bare and unattractive.

There is, though, a positive response from the community, an awareness that something is happening for the better, especially in the schools that act as TCs. The community is also aware of professional debate being conducted and, as such debate held within village schools is effectively open to the public, many local people with a stake in the school have the opportunity to become better informed.

3.2 Evidence of weak or no influence of TCs

Model lessons were taught and observed during TC meetings but there is little or no guidance on strategic observation. Teacher comments on what they had observed were mostly unfocused and long winded. Neither were the lessons considered in context (e.g. how the lesson developed an idea that had been taught in the previous lesson). Observing teaching is an acquired skill and even experienced teachers may need support in doing it. In model lessons, failure to address individual children's needs is almost inevitable since the teacher will not know them individually. This is an issue that could usefully be addressed by, perhaps, teachers discussing in detail the characteristics of individual learners, based on what the children did during the model lesson. We saw no discussion of the pupil products (e.g. what they wrote or said) from any of the demonstration lessons and virtually no reference to textbooks.

TC meetings appeared not to have been effective at the level of planning in a time frame longer than one lesson. Neither do teachers appear to have been empowered to develop or create solutions to pedagogic problems locally in their own schools.

There is some evidence of transfer of APPEP principles to the classroom but this is at the level of superficial technique rather than understanding of underlying theory. This misunderstanding manifests itself in. for example, the inappropriate use of card as a medium for recording information when notebooks would be more suitable and the use of group arrangements when it is whole class teaching that is actually taking place. We see this as a product of a training mechanism which did not appropriately differentiate the training needs at different levels in the cascade hierarchy. The TCs are, in many ways, potentially powerful means of developing a professional culture but we saw many instances of teachers sharing their ignorance and uncertainty rather than being guided towards higher order professional skills. The single greatest change teachers themselves would make to the arrangements is having access to authoritative expertise.
There are few opportunities during the tightly structured meetings for teachers to have informal discussions or to exchange concerns at their own level.

We saw much evidence of teachers 'thinking in slogans', especially the more concrete slogans. 'Low cost No cost' is by far the most popular. Teachers centre meetings that we observed appeared to do little to replace this with deeper reflective thinking. There is a parallel here with the main focus of much teaching we observed in schools of teaching definitions to children.

Lesson planning at the TCs seems to take place at the level of process with no real discussion of what learning involves. Model lessons seem considered to be those which are neat and tidy from the teacher's point of view. Children complete low level tasks in simple incremental steps irrespective of the match between these and their own entry point to the matter to be learned. This characteristic of much educational practice is of course not unique to AP.

There is a persistent pattern of teacher misunderstanding of the purpose of group work and the use of card materials. There is very little interaction between children in groups so that less learning takes place for more money when children watch one member of the group complete the task on a piece of card that could have been written on the blackboard for all children to complete in their notebooks. Where there is the potential for interaction to occur, the tasks provided are insufficiently challenging and involve too little opportunity for practice or repetition. Even when children are arranged in groups they are generally still taught as a whole class. In the worst cases this involves them being inappropriately sited to read the board. These characteristics of teaching are of course well known within this imported pedagogical model.

There is little recognition of individual differences in learning and not much diagnosis or correction of errors. Teachers have few strategies for dealing with children who do not understand on the first explanation other than holding an extra (infrequent) 'remedial' lesson.

We suggest that misunderstandings are likely to continue to persist whilst there is no clear intervention role for the newly created Block Resource Co-ordinators (BRCs). There appears to be an urgent need at many TCs for sensitive and intelligent interpretation of project principles in the light of local circumstances and the skill levels of participating teachers. Training for key staff who could make appropriate interventions in TC meetings has been the same as for the teachers themselves. This makes it almost impossible to promote more reflective thinking. Although further training for BRCs is envisaged this key point seems not to have been internalised by those responsible for teacher training.

It is envisaged that BRCs will visit schools to follow up TC programmes and provide further advice and guidance but the logistics of numbers makes it doubtful if it can be achieved, especially as they will also have administrative and monitoring functions.

Initial meetings under APPEP were held regularly but there was substantial evidence of meetings lapsing as a result of breaks in the continuity of funding teacher expenses. These were modest but appear to have been critical. APPEP finished September 1996 and it appears unlikely that teacher centre meetings have continued in those districts where DPEP has not followed.

We observed little difference between non APPEP trained teachers and, say, the bottom third of the trained teachers.

There are many teachers in the education system who are completely untrained. These are employed by the Village Education Committees to enhance the local teaching provision in their school. These teachers do not participate in the TC meetings and there appears to be no mechanism for bringing them in or paying their transport costs. This would be a low cost way of ensuring at least some professional development for these teachers who seem likely to continue within the system during the present funding difficulty. It would clearly be better if all teachers were properly trained but as an interim measure this may contribute to better performance.

In one district a teacher has been appointed to be responsible for a newsletter but there has been little consideration of its potential for improving teacher skills, or of providing a continuous flow of resource materials that could form part of the agenda for TC meetings. This relatively inexpensive means of supporting teachers seems unlikely to have the effect it could, particularly as there appear to be in place inadequate mechanisms for delivery, updating addressee lists, obtaining feedback on its usefulness or even a consideration of target readership.

The limitations of the TC strategy within the overall project framework must also be noted. The TC budget represents only Rs 2000 per 30 teachers per year (the annual salary of these 30 teachers is likely to be around Rs. 1,500,000), that too with various administrative problems in resource flow. However, it can be argued that TCs appear to be a cost effective intervention for a limited purpose, while making impact on the class is a bigger and separate issue. TCs appear to have been quite effective in progressing at a superficial level the APPEP message as delivered during the training. In this sense, the TCs are effective for the purpose for which these were set out.

3.3 Summary

The Andhra Pradesh TCs are likely to be more effective if they:

- Provide structured guidance on model lesson observation, including the evidence of children's learning

- Further define and set out in writing the roles of the secretary and assistant secretary.

- Further define and set out in writing the roles of the MEOs and BRCs in relation to TC meeting intervention and involvement.

- Are conducted under the guidance of colleagues with training in further professional development and leadership skills.

CHAPTER FIVE

Teacher Resource Centres in Kenya

Geoff Welford and David Khatete

1 Introduction

1.1 Background to Centres in Kenya

There are 2 distinct types of Teachers' Centre operating in Kenya, namely Teacher Resource Centres (TRCs) at the Secondary level and Teacher Advisory Centres (TACs) supporting Primary phase teachers.

Kenya has a long history of supporting teachers through Teachers' Centres (Ayot, 1983). TRCs were first set up in the 1970s and rejuvenated in the 1980s by the ODA with the focused curricular aim to improve English teaching and learning. More recently, and post-Jomtien, true to its policy of support for Basic Education and Poverty Alleviation, DfID has funded TACs. This represented a distinct policy shift not only from working through Resource Centres to Advisory Centres, but also concentrating on improving teaching and learning English, Mathematics and Science in Primary schools. The emphasis in the investment could be interpreted as in developing people's expertise and not on putting books on bookcases in purpose-built centres. The policy was based on the need for sustainability and supported the tenet that expertise endures, books decay. The Kenyan government pays the TAC tutors' salaries, DfID funds training and professional development.

Teacher Resource Centres in Kenya: TRCs were started in Kenya in 1975 and funded in various phases under different programmes by the ODA until 1992. Latterly they functioned to support the ODA funded English Language programmes of the 1980s. At the time of writing there were 25 functional TRCs in the country. They are administered through a TRC-tutor seconded from a local secondary school for part of her/his timetabled teaching time and managed by a TRC Management Committee largely comprising the Headteachers of the Secondary schools in the District. The TRC Committee is supposed to receive monies from a system of levies on parents through schools. The TRC is thus now funded in part by the Ministry, who pays the TRC-tutor's salary, and in part by transfer of funds from participating schools from the levy on parents. There is no longer any formal donor funding of Kenyan TRCs although the British Council continues to encourage and train the TRC-tutors.

TRCs carry a collection of resources for teachers to use on site or to borrow for their own professional development. Primarily, however, they have class sets of readers associated with the KCSE Examination syllabus for English and background resource texts to support teachers in their teaching of English. The TRC-tutor manages a programme of In-service course for the teachers of English in the TRC area as well as controlling the resources of the TRC.

Teacher Advisory Centres in Kenya: The TAC system was developed by the Ministry of Education and the ODA in 1978. TACs were established at that time in Primary Teacher Training Colleges and were intended for use by Primary school personnel as curriculum development and management centres They were to be venues for in-service training courses, where teachers could go to make teaching materials and to be a base for the teacher-advisers or TAC-tutors (Modi, 1997). They operate through zonal TACs with several zones being co-ordinated through a District TAC. More than 1,370 zonal TACs have been established in Kenya.

TACs are mostly jointly funded by the Government of the Republic of Kenya and DfID as part of the SPRED (Strengthening Primary Education) programme. SPRED is now in its second phase (SPRED II) which started in 1997. DfID also funds the PRISM (Primary School Management) project which uses the TAC system to support the training goals of that programme aimed at Headteachers and school managers.

There are also TACs which are managed and part funded by the Aga Khan Education Service (AKES) as the School Improvement Project (SIP) which also receives some DfID funding. The AKES initiated its SIP programme through the TACs in Kisumu in 1990 before moving its programme to the TACs of the Mombasa Municipality in 1996/7. (See Black et al, 1993 for an account of the Aga Khan Foundation's school improvement programmes worldwide.)

Few zonal TACs under the SPRED I programme were resourced with books and other material resources for teachers to use or borrow. District TACs and some zonal TACs received sets of Science English and Mathematics reference texts, book-box libraries, class sets of readers for loan to schools and Science kits. TAC tutors in some areas were also supplied with a bicycle to support their school visits programme. In the SIP programme, however, zonal TACs are more heavily resourced and function both as an advisory and a resource centre.

This study of the case of Kenya and the effectiveness of its Teachers' Centres looks first at how the TRCs function at Secondary school level in the country before moving on to present the picture of the two different models of TAC operation in the Primary sector. The study lingers on the SIP programme, a case within the case study almost, since it is felt that there are significant messages for the future sustainability of the Teacher Centre concept not just in Kenya, but elsewhere. It prefaces the discussion of TRCs and TACs with a brief contextualisation, an outline of schools and schooling in Kenya.

1.2 Context: Education in Kenya

At the 1992 census it was estimated that there were some 28 million people living in the Republic of Kenya, up from 11 million at the time of *Uhuru* (Independence from colonial administration). Recently falling back slightly, the population growth rate in Kenya was over 4% until the late 1980s, among the highest in the world. It was estimated at that time that very nearly 60% of the population was aged 15 years or under, providing an enormous strain on welfare and education systems in the country.

Fully 97% of the Kenyan Education budget is spent on teachers' salaries, leaving little finance available for equipping or resourcing schools or for teachers' professional development. Provision of book and other resources for schools and teachers has provided the Kenya Government with a massive challenge. Donor-funded Teachers' Centres have been one way of supporting teachers and the education service.

In the mid-1980s Kenya changed its education structure, moving away from the British model comprising 13 years of schooling ending in the sixth form with A-levels, to its current 8-4-4 system (see Eshiwani, 1993 for a fuller account of the recent history of education in Kenya). Now children receive 8 years of basic education at Primary level after which they may leave with a Kenya Certificate of Primary Education (KCPE). Currently about 86% of eligible children are enrolled in primary schools. In common with other countries in the region this proportion has actually fallen since the Jomtien 1990 declaration of 'basic education for all'.

About 40% of Primary school leavers proceed to 4 years at secondary school, entry being selective and highly competitive based on KCPE performance. University and Higher education is entered after 4th form, is again highly competitive and based on the results of the public examination, the Kenya Certificate of Secondary Education (KCSE). About 3% of the age cohort enter HE/FE.

State schools at all levels differ greatly in almost all respects - numbers of pupils and teachers, catchment, teachers' qualifications - depending upon both their location, urban or rural, and their status. There is also a thriving and growing private sector although all schools, state and private, collect fees to a greater or lesser extent.

There is a sense of dissatisfaction with education in Kenya usually expressed in the press as tension between the 'die-hards' who want a return to the old system and the proponents of 8-4-4. There is a growing number of unemployed university graduates, secondary school leavers are not in full employment and parents no longer insist that their children go to school. In the rural areas especially, parents suggest that their children are more productive helping on the farm than

> "..*wasting their time on schooling which is bad and doesn't get you a job anyway!*" (parent, Western Kenya).

There is a growth in after-school coaching to make more certain of examination success, these sessions often staffed by the same teachers as the children meet at school during school hours.

State-run Primary schools are almost always neighbourhood schools with all pupils attending daily. The majority of Secondary schools are boarding schools, parents often having to contribute a bed, a desk and books as well as fees if offered a place for their child at the school.

Pupils in a typical Kenyan Primary classroom

Most Primary and Secondary state schools and the majority of those privately funded are poorly equipped and resourced by comparison with schools in the rich West and North. All schools have a requirement that their pupils wear the school uniform and children are smartly dressed. In many rural Primary schools there are children without shoes despite having journeys of several kilometres to school.

Teacher absenteeism is a problem in many schools:

> *My pay is not enough. I work here at school and then I have after school classes which the parents pay and this helps me to look after my family. I have to make sure that we have food and sometimes I am needed on the* shamba *(farm).* (Teacher, primary school, Central Kenya).

2 The Study

2.1 The Methods of Study of the TRCs and TACs in Kenya

The fieldwork was carried out by two colleagues, David Khatete (DK) from Kenyatta University, Kenya, and Geoff Welford (GW) from the University of Leeds, UK, who know each other well from working together in Leeds and Kenya. The field study was done in 3 phases and involved visits to and interviews with key personnel both in the Ministry of Education, funders and managers, and the Centres. Schools, TRCs, TACs and in-service workshops from Western, Central and Coast Regions were visited and teachers, headteachers, and TAC and TRC personnel observed and interviewed.

The first phase was carried out largely in-country by DK. It involved talking to Ministry officials, inspectors, officials from the various funders involved in the projects in Kenya and their managers as well as TAC and TRC tutors. Documents and other relevant materials were gathered and analysed along with the interview transcripts to describe the setting for Teachers' Centres in Kenya and in preparation for visiting the Centres themselves.

The second phase involved both GW and DK who followed up leads from the first phase, but mainly focused on visiting the Centres and schools, talking with the TAC/TRC-tutors, Headteachers, teachers and others from associated schools or management committees. We also attended in-service workshops when available during this phase.

In the third phase DK visited schools whose staff were at the workshops to observe the participating teachers in action. Their classrooms were observed and the teachers discussed the impact of TAC workshops on their teaching. He also continued to sample TAC/TRCs and interview those associated with the Centres.

Some limitations of the fieldwork, especially those peculiar to the timing of the study, are worthy of note. Phase 1 was carried out at a time when the country was readying itself for elections which were due in late 1997. Political tension was heightened in some parts of the country by localised waves of unrest which not only disrupted aspects of the study, but more importantly interrupted the life of schools, pupils and teachers as well as Centre staff and their programmes.

Phase 2 was carried out in mid-January 1998 and coincided both with the immediate aftermath of the elections and the early part of the school year. At very short notice the start of the school year was delayed by the elections and so some of the fieldwork visits arranged many weeks before did not encounter schools functioning as they would have done in a normal year. However, these conditions applied to all the visits made in phase 2 and any comparisons made retain validity. Schools did not mount special lessons on our behalf. TRCs and TACs did not, in our judgement, alter their programmes for our benefit.

Phase 3 took place between February and June 1998 when schools and the Centres had resumed 'normality'.

In summary, 5 TRCs and 12 associated Secondary schools were visited. We interviewed the TRC-tutors, Headteachers or deputy Headteachers, and groups of teachers who had been exposed to the work of the TRCs.

We visited 12 zonal TACs and two District TACs, and interviewed the TAC-tutors of those Centres. We spoke to staff and teachers in 19 schools associated with the TACs and attended workshops at 2 more. We talked with the Chairpersons of Management Committees of two of the TACs visited.

This represents a small fraction of the TACs particularly and the people associated with these Centres. We visited Centres in three of the eight regions of the country, our programme limited in phases 1 and 2 particularly by the deterioration of the country's infrastructure brought about by devastating floods which made parts of the country inaccessible.

Primary school teachers in session at an In-service workshop

The work of the 3 phases has provided the data on which we make the following observations.

2.2 TRCs in Kenya

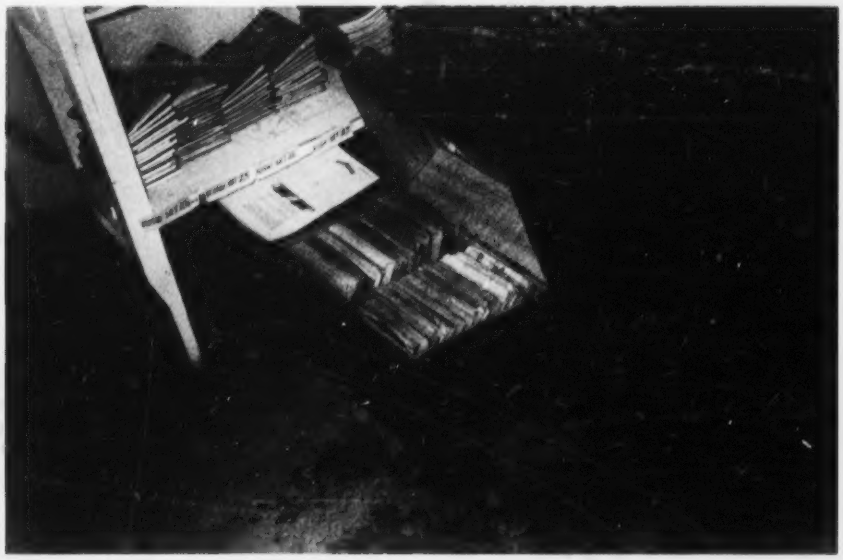
There are 25 TRCs in Kenya, funded until 1992 by the ODA under its Secondary English Language Project (see Government of Kenya, 1992 for an evaluation of the SEL Project). The TRC is usually located in a secondary school, with the local Headteacher very supportive of the Centre and its Tutor. Each TRC-tutor is a senior secondary English teacher, usually Head of Languages in a School responsible for their department firstly, carrying a teaching load in their school and running the TRC on around 2 days a week. The resources in TRCs are mainly English books, although most carry a **small** number of other books - pedagogy, psychology of learning, science teachers' and maths teachers' reference texts. Since 1992 the source of materials has been limited to donations and the few books that TRC tutors have been able to buy out of subscriptions.

One of Kenya's TRCs

i) Outside view of TRC

ii) Two local teachers consulting texts in the In-service room of the TRC.

iii) Bookstore and TRC-tutors office



iv) Bookbox for teachers to carry class set of readers.

With so much of the Ministry of Education budget being spent on salaries, little is left for any other provision. Schools with libraries are the exception and so the TRCs with some books are oases for English teachers. The TRC-tutor is responsible for cataloguing all materials and for implementing an effective measure of stock control. In one TRC visited we were given copies of the list of books overdue and shown letters to Headteachers informing them of the fines incurred to date! All TRC-tutors had excellent systems for locating their stock. They also expected that books damaged or lost would be replaced and were able to prove that their system worked by showing us new books they were cataloguing into their stock.

The TRC-Tutor also co-ordinates a small In-service programme centred on the TRC. It is usually based on the needs of the teachers for support in teaching the examination set-texts in English. The decisions about the focus for In-service work are supposedly made by the TRC Management Committee. In practice they are left to the TRC-tutors whom we interviewed. They mostly anticipated needs as being met by set-text workshops although they also responded to teachers' views expressed while such workshops are in progress. Another kind of teacher and pupil involvement organised through the TRC was a public speaking and debating competition. We noted that between 4 and 6 in-service workshops were planned for each year.

Each TRC serves upwards of 30 Secondary schools, some of which may be more than 100km from the TRC.

The British Council is fostering the development of TRCs forming Teacher Development Groups (TDGs) out of the Secondary English Language Teacher Support Project (SELTS). SELTS had organised skills development courses during the lifetime of the programme, and the TDGs are forming out of these. They run their own courses, the TRC-tutors becoming the TDG co-ordinators. The boast is that these are activity-based courses with finite and concrete useful product. TDGs are reliant on schools to fund teachers' transport to courses while the British Council is presently providing for accommodation and subsistence. Schools are members of the TDG through paying a membership fee levied through the Headteachers Association, usually about 800KSh per school (2 to 5KSh per pupil on the roll). Not all schools in a region are members and there is a feeling, unsubstantiated among those to whom we spoke, that some Heads are hostile to the TDGs.

The TRCs are hoping to integrate more into the community, seeking support from that community and local NGOs. They are hoping also to increase their appeal by opening the Centres to other subjects as they increase the scope of their resources.

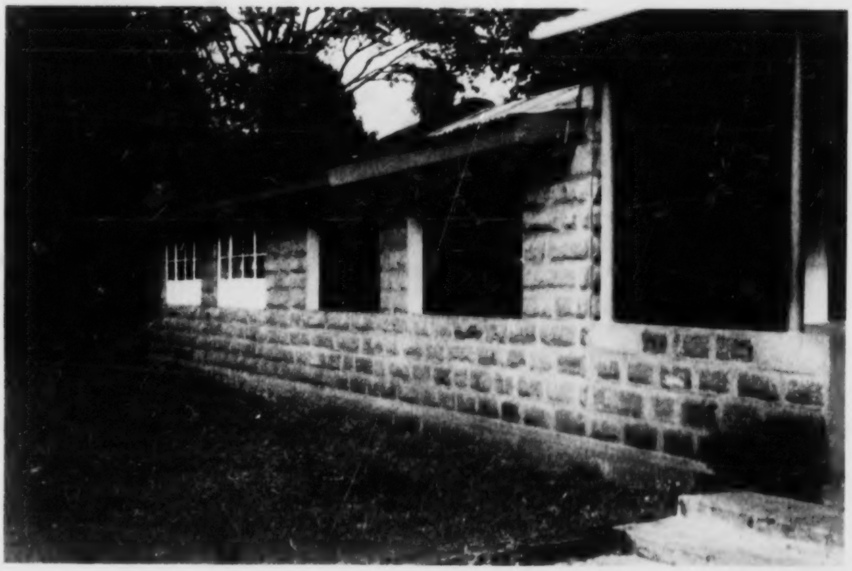
Personnel from the British Council interviewed had little evidence to show that course attendance affected teacher promotion in either Secondary or Primary schools. Headteachers asserted that it did in that they took it into account when advancing the case for promotion of a colleague.

2.2.1 Observations of TRCs

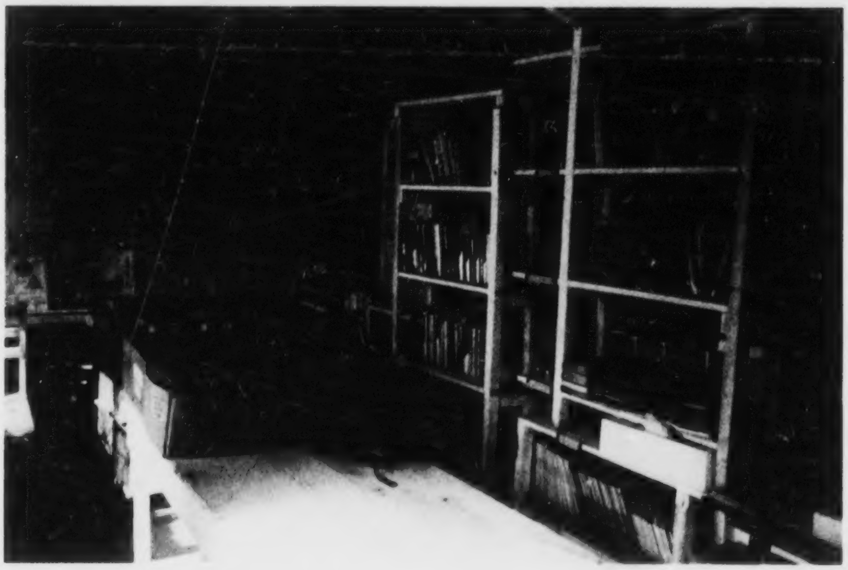
The TRC-tutors: The TRC-tutors are part-time. They are all teachers, usually Heads of Languages/English in a school. The TRC may be located in their School or at another place more central to the District. The tutor opens the TRC for 2 days a week, carries out all the administration of the resources, organises and facilitates the workshops and other In-service provision, is secretary to the Management Committee and both runs a department and teaches in their school. They often open the TRC in the evenings outside their designated days to increase the access of colleagues from member schools.

The British Council is preparing a TRC-tutors handbook which was due to be issued in March 1998.

Resources: In Kenya, 25 functional TRCs provide the only source of class readers for KSCE English classes in many Government Secondary schools. Despite the fact that there has been little new resource since the end of the SELP in 1992, users were unanimous in their support for their TRCs. All the TRCs visited provided sets of class readers, copies of set-texts and acted as a conduit for the Kenya Institute of Education (the Curriculum body) where teachers could pick up copies of or view videotapes of set-texts. The TRCs also had facilities to dub audiotapes for teachers to use with KCSE classes. In one case, however, although the TRC was located in the area Education Offices, there was no electricity: failure of the MoE to pay the bill had meant that the supply had been cut off! There was no water supply to this TRC either.



i) Another of Kenya's TRCs (described above) viewed from the outside



ii) The bookstore and teachers' workroom inside this TRC

iii) The secure equiment store for this TRC

Teachers other than teachers of English did not express opinions about TRCs, except to say that they would welcome resources for their own subject, since they have no history of involvement with the TRCs. We encountered no envy of their English language-teaching colleagues from teachers of other subjects.

Heads and Deputies acknowledged that their schools would have to increase the funds they allocated to supporting TRCs if other subjects were to be resourced through TRCs, but all we spoke to said that they would be willing to do so. However, since we encountered more than once the suggestion by the TRC-tutor that some Headteachers were not making their (smaller, existing and expected) contribution to the running of the TRC, such a response might need qualification.

All teachers questioned suggested that the TRCs in their district had had a positive effect on English results at KCSE. Detailed analysis of their schools' KCSE results showed a slight if insignificant upturn in English results since the early 1980s. However, despite the upward trend, this could not with confidence be attributed to the influence of the TRC or its In-service programme.

Secondary schools in Kenya were barely functional at the time of our study visits in phase 2, the start of the school year having been postponed to allow for the General Election and its aftermath. We visited classrooms, but could make no useful judgements about the impact of TRC materials on classrooms or pupils. Classroom walls were bare, visual display materials having been removed while the schools were shut to prevent theft or damage. School admission at the start of the year is conditional upon the payment of fees and Headteachers' offices were besieged by parents making their pacts on fee payments. Teachers and a sizeable minority of pupils were often not in the classes visited during phase 2 of the study.

In-service provision by the TRC: Courses are rated as effective by teacher-users perhaps because they are the only courses on offer to teachers. The impact of the General Election on the INSET programme in one of the TRCs was significant:

> *We have not had a programme this year (1997/98) because of the election. We were sensitive to the fears of teachers who in this region did not want to gather together. We were frightened that the measures taken in the last 1992 election forbidded (sic) meetings as they were seen as political. This region is in the spotlight and so we suspended our programme.* (TRC-tutor)

Because of the scarcity of in-service courses run by the TRCs visited, and the lack of activity in the classrooms, we do not comment on the transfer of pedagogy or content from in-service courses run by TRCs to the classroom and into children's learning.

Enthusiasm and commitment: The TRC-tutors we spoke to were all very committed to what they were doing. They worked much longer hours than those allocated to them to run the TRCs. They acknowledged the support of the Heads of the schools in which they worked, but recognised the need for the full commitment of their Management Committees and the various Ministry officials associated with the schools.

We encountered enthusiasm from the Heads and deputies we met. The Management Committee Chairs also professed their support, but varied in their knowledge of the constraints within which their TRC-tutors worked. Their levels of involvement also varied. In one TRC the Chair was involved on an almost daily basis and was a good friend to the TRC-tutor. In another, he was the Head at a school over 100 km from the TRC and had only a knowledge in principle of what the TRC was involved in locally or the difficulties that the TRC-tutor faced.

This TRC-Tutor was fiercely loyal to her Management Committee Chair, but alluded to his emotional and spatial separation from her work and the difficulties she faced:

> *"He is a very good man and has visited me here. I don't get the money to run the TRC well and I have had to put it from my pocket myself. I have claimed it, but to this moment I am still poor because of it. He has not time to pass the money to me and it takes a long time to get letters to him"* (TRC-tutor)

The Chair's response was one of puzzlement:

> *She doesn't have to find money from her pocket - it comes from the levy.* (Chair, TRC Management Committee)

However, when pushed he described a system of levying money from the schools in the TRC zone that was very different from that described by the Heads in the contributing schools and by the TRC-tutor herself.

Ministry officials, from inspectors through to District Education Officers, influenced the ability of the TRC to maximise its presence. In one case, although the TRC-tutor could not be explicit, it was apparent from her embarrassment when questioned directly that the DEO expected unspecified favours in return for his commitment!

Finance: The Headteachers' Association for each district voted a sum of money, a levy based on the number of pupils in their school, to the TRC. This allowed the TRC-tutor to provide resources for workshops and to offer lunches for participants. Schools provide the money for transport for teachers to travel to workshops or to visit the TRC to use or borrow materials. It is apparent that not all Heads in each district are equally supportive - we spoke only to a few and they were, but since they were either from the TRC-tutor's school or active on the Management Committee, our sample was very biased. TRC-tutors spoke of the apathy of some Heads and the hostility of others. TRC membership was rarely more than 60% of the eligible schools. In some cases this was because the TRC was far from the school; in others because the school had exhausted the resources available at the TRC.

> *"We don't come any more because we have used all the readers with our classes. If they get some more we will come again."* (Head of English, member school)

Distance: The TRCs we visited in two regions were situated in high-density population areas. The distances from schools in the district to the TRC were relatively modest and thus cost participants and their schools little in public transport fares. However, the TRC in another region served some schools that were over 100km from the TRC. Teachers from these schools were infrequent attenders, their schools were not members of the TRC and the Heads were either hostile or apathetic to the TRC.

2.3 TACs in Kenya

2.3.1 SPRED TACs

There are over 1,300 TACs in Kenya, mostly operated in the Districts of the country, firmly established under the ODA-funded, CfBT-managed SPRED I project and now extended and supported by the DfID-funded SPRED II programme (Modi,1997). This latter initiative was just beginning (in early 1998) to take effect using its new and different Terms of Reference under the management of the British Council. It is arguably too early to feel the effect of SPRED II on the ways in which TACs will run and certainly too early to evaluate effectiveness.

It is worth noting with respect to the establishment of the SPRED II TAC system that a large majority of those employed as TAC tutors in SPRED I had been 'promoted' to the Inspectorate. This might be read as widening the influence of the TAC philosophy and be considered to be a measure of the impact of the TAC. Conversely, it could be seen as a significant barrier to the speed with which SPRED II can make its own impact on classes in Kenya's Primary schools. That notwithstanding, the donor has invested in the training of personnel who have then become a significant part of the Republic of Kenya's Inspectorate without the Ministry of Education having to finance, develop and run its own inspector-training mechanisms.

Each TAC is staffed by a TAC-tutor who is a Ministry of Education (MoE) employee. TAC-tutors operate out of an office usually in a Primary school and serve a zone with around 10-15 satellite schools. With the exception of a small number of zonal TACs (Lugari, Kakamega and Vihiga, for example) we saw no zonal TACs which were equipped or resourced despite the resources which had been allocated (Modi, 1997). District TACs are resourced with reference and other materials for the around 30 zonal TAC-tutors in the district.

The zonal TAC office was often shared with the zonal inspector. These two individuals usually worked closely together although the TAC-tutor appeared to enjoy a much closer and more relaxed professional relationship with the teachers in his/her schools. This derives from the formative, supportive advisory role of the latter that contrasts with the summative inspectoral role of the inspector. Several times teachers told us how they liked the way in which the TAC-tutor worked and loathed the cold, judgmental air of the inspector.

2.3.2 SIP TACs

The Aga Khan Foundation's Education Service initiated a School Improvement Programme (SIP) in the Municipality of Kisumu in the early 1990s. SIP, jointly funded with DfID, is now (1998) in its third year of operation in TACs in Mombasa Municipality, having discharged its terms of reference in Kisumu. Many of the Mombasa SIP's programme officers had experience as TAC tutors with SPRED I.

The SIP programme serves all 126 Municipal schools and about 20 private schools in Mombasa working in all the 5 districts. Each district is divided into 2 zones, each with a TAC. The TAC tutor, an employee of the Municipality, works with the 12 or so Primary schools in the zone, all within 3-5 kilometre of the TAC. A Programme Officer (PO), employed by the AKES, is also working in each of the 10 zones of Mombasa Municipality, thus each TAC is staffed by a TAC-tutor and a PO. SIP is co-ordinated by its Project Director who runs the Project Office.

Schools were drawn into the programme at the time it was established having previously used the TACS developed under SPRED I. The closer and stronger co-operation of the community was sought at the time of the transition from SPRED I to SIP. It has now become a matter of pride to the Headteacher that the TAC is situated in their school.

The Director meets with all the POs every week to develop the workshop programme through a detailed needs analysis. The POs will then spend time with the TAC-tutor both to communicate the developing workshop programme and to take the tutor's ideas back to the needs analysis meetings. The Project focus is on English, Mathematics and Science, but the POs will advise teachers across all the subjects on the curriculum during their school visits.

The Mombasa Municipality runs the schools, but SIP enjoys an excellent relationship with the Municipality. The Municipal Education Officer is Chair of the School Improvement Project Committee.

SIP provides materials, - books, stationery, a typewriter, a guillotine and a duplicator - for each of its TACs. However, and this is crucial, it will only make its donation conditionally. The community MUST guarantee safe storage of materials, making the TAC secure against theft. It must also make available a room, usually adjacent to the TAC office itself, big enough for the TAC tutor and the Programme Officer to hold frequent workshops.

Once this guarantee is met and the TAC made safe, SIP puts the materials into the TAC and engages a Project Officer (PO) to work in each TAC. The PO takes care of 3-4 project schools in each phase (lasting one year) of the project, working with the TAC-tutor at least 2 days a week and spending the other 3 days in his/her project schools while the TAC-tutor visits the other schools in the zone. By the year 2000, the end of the

Project, all schools in the zone will have had this intensive attention from the TAC-tutor and the PO.

SIP also provides an INSET programme in each of its 10 TACs through its POs, usually working closely with their TAC tutor, which is open to all the Primary schools in the zone and not just the current project schools. Each TAC will organise an average of three workshops each school year. SIP uses a thematic approach where each term is allocated to a specific theme or focus so that the programme to date was:

1st Term 1997 -	Reading
2nd Term 1997	Mathematics
3rd Term 1997	Science - Lower Primary
1st Term 1998 -	Science - Upper Primary
2nd Term 1998	Oral English - Upper Primary.

The INSET programme is co-ordinated so that both zones in a district have the same programme.

The zonal inspector also works out of the TAC and SIP has persuaded the Municipal Authority to appoint a 4th person (in addition to the TAC-tutor, zonal inspector, PO) to each TAC team, namely a school adviser.

The topics for the In-service workshops run by the TAC-tutors and the POs are wide ranging across each of the 3 subjects and at present the emphasis is on meeting short-term needs arising from the needs analysis. The tutors and POs will plan thoroughly, agree the focus, co-ordinate the running of the workshop, produce materials and mount the course. They follow their teachers back into class and support them in implementing the methods or materials agreed. However, there is no intensive effort on, say, literacy, with materials being designed both to change pedagogy and for consistent and co-ordinated use with the pupils in class.

The SIP TAC Management Committee, headed by a member of the community, usually a successful businessman or woman, is intended to ensure sustainability through this close involvement with the local community. The TAC-tutor acts as secretary, the treasurer is from the community and all the Headteachers from the zonal schools are members of the Committee. They are charged with looking for funds to sustain, manage, maintain and develop the TAC provision. Each member school's PTA committees will vote 500 - 1,000KSh to the TAC and raise additional funds through '*Harambees*' (fund-raising functions) of one sort or another.

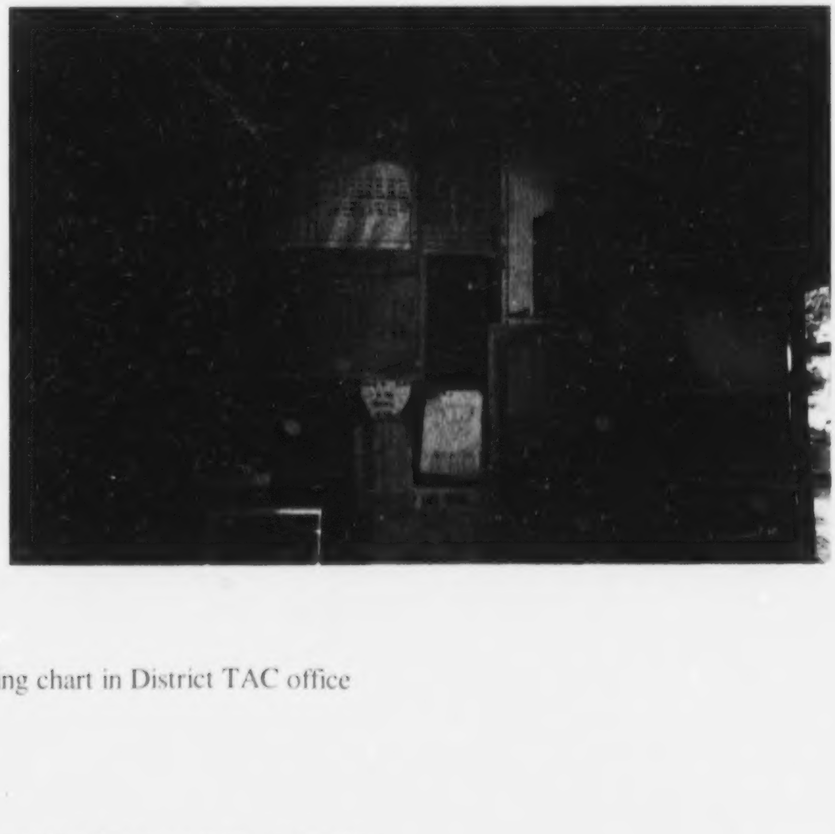
2.3.3 Observations of TACs

We visited both types of TAC - those associated with SPRED I as well as those which were part of the Aga Khan SIP programme. The organisation of the Mombasa SIP TACs have been outlined above. That for the others forms the focus of what follows below.

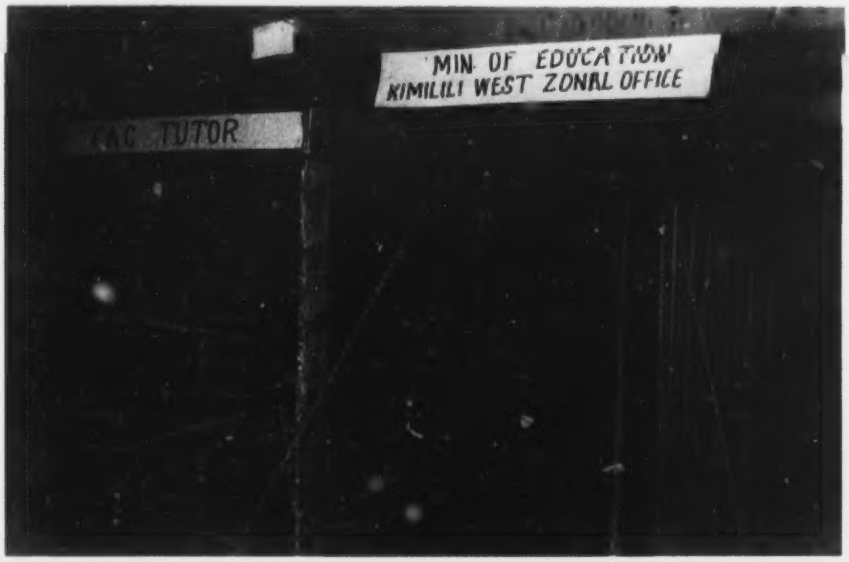
2.3.3.1 Observations of SPRED TACs

These TACs were characterised by having few, if any, resources, the TAC-tutor operating out of an office in a Primary school, visiting teachers, working with the zonal inspector and facilitating workshops. Their mode and scope of function appears to be changing with the advent of SPRED II, and many TAC-tutors are new to their jobs, their predecessors having been promoted to be inspectors.

There are normally 10-15 schools per TAC, usually within 15km of that TAC. Although the brief of SPRED I was to concentrate on Mathematics, Science and English, all subjects were included in the needs analyses which we discussed with TAC-tutors. It would appear that the focus for advisory and In-service work had become whatever was seen as appropriate by the TAC Management Committee.



i) Planning chart in District TAC office



ii) TAC-tutor's office – a sectioned off part of the School library

TAC-tutors: TAC-tutors are full-time advisers employed by the Ministry of Education. They work closely with the zonal inspector (ZI) and the TAC Management Committee (which includes all the Heads of the primary schools in the zone, the ZI and the TAC-tutor) to identify the needs of primary teachers in their zone. This needs analysis results in in-service provision organised by the zonal TAC tutor. It almost invariably involves scrutiny of the examination performance of children on the range of subjects taught to KCPE. In 1998, for instance, poor performance in Arts, Crafts and Music suggested a focus for in-service on those subjects in one zone visited.

TAC-tutors also receive suggestions from the school-based subject-panels (subject departments in the Primary school) as to what they might like workshop inputs on.

Each school too seems to base its needs analysis only on examination performance at KCPE. The TAC-tutors questioned kept records of all In-service courses run, of teacher attendance and of their follow-up visits to schools. They also had the KCPE results at the school level for their zone, but could show us no analysis attempting to link KCPE performance to the In-service focus in one subject or another.

We asked questions about teachers originating requests for input from the TAC-tutor based on individual perceptions of need. This was met with a little puzzlement by Heads and teachers alike as though individuals were not thought to have specific needs for support or advice.

In-service: The TAC-tutor organises and facilitates the workshop which may be zonal or school based. Their records show that the frequency of workshops is variable, but is between 4 and 8 each year.

If it is to be a zonal workshop the TAC-tutor will invite a member of the relevant subject panel from each zonal Primary school to participate at the workshop held in a convenient school in the zone. Invariably the Heads support this, providing resources for attendance through their pupil-levy. The returning teacher will then cascade the training through the subject-panel meeting in their school. The Head often attends this training in-school session, as does the TAC-tutor where possible.

School-based Inset involves the TAC-tutor running a workshop in a school for all the members of the subject panel. This may be repeated in other schools in the zone depending on the local needs analysis.

TAC-tutors said they always provided follow-up, observing lessons and counselling teachers about the successes and failures of their attempts to implement the new materials or strategies. In practice this follow up happened at different times for teachers in different schools, but teachers reported that they always received a visit in connection with a recent workshop. Given the numbers of schools each TAC-tutor had to visit and the numbers of teachers in each subject panel, some of these visits must have been of short duration, but those we observed were of whole lessons followed by detailed feedback. Inspectors too visited classes to report on teacher performance. Their comments were much less welcome being seen as judgmental, summative and never accompanied by formative classroom support.

Impact: The teachers we spoke to were all very positive about the place of the TAC-tutor, describing their sympathetic way of dealing with teachers as in direct contrast to the process of inspection. The constructive, formative assessment provided by the TAC-tutor was welcomed: that of the inspector usually drew hostile comment from teachers. We saw only patchy evidence of transfer to schools and to pupils' books of ideas from the TAC-tutor inputs. This was explained as being due to it being the very start of a new term and that all classroom displays had been dismantled before Christmas. Money for teachers to develop teaching aids, for instance, was scarce and we saw few of these. However, teachers did make an effort to develop the ideas and input from a workshop. In one school visited the teacher had used cardboard from a box scrounged from a local shop to make a visual aid to support her teaching of Mathematics. It was crude, but served its purpose.

Subsequent visits in the third phase of the study have not revealed anything had changed measurably - walls were still bare and exercise books carried little that could be directly related to In-service input. The teachers remain convinced that they change their pedagogy as a result of the one-to-one work done with the TAC tutor.

All workshops awarded teachers certificates on completion, valued by teachers for their perception of usefulness in supporting their promotion in the service. Again, the British Council asserted that there was no direct evidence linking attendance at TAC workshops with subsequent professional advancement.

Paradoxically almost, given the way in which the TAC-tutors and Zonal Inspectors were viewed by teachers, TAC-tutors were often promoted to inspectors, there being no status reward for being a TAC-tutor.

Enthusiasm: TAC-tutors, inspectors, Heads and teachers were all very complimentary about the job being done. They all wished that there were more resources for use by teachers to support their own learning and for classroom use. One Primary school used the English books from the local TRC, there being a close personal relationship between the Head of this Primary school, the TRC-tutor and the Chair of the TRC Management Committee. All wished for some central commitment to resource provision, lamenting the pressure to provide through the efforts of the community.

2.3.3.2 Observations of SIP TACs

Impact: Judging impact is a complex business. We both commented on the SIP schools we visited. They were invariably characterised by highly active classes. They all used lively teaching aids which were present to varying degrees in all the SIP programme Primary school classrooms we visited – each the product of an intensive in-service workshop run by the TAC tutors and POs.

Teachers were bright-eyed and dynamic and spoke of the rewards of the job (and they were not referring to financial rewards!). We never found a class without its teacher in a Mombasa SIP school. Compare this with the observation on teacher and pupil absenteeism made earlier and the rather weary comment from the teacher who found his job:

> *"….not enough. I work here at school and then I have after school classes which the parents pay and…!* (Primary school Teacher, Western Kenya)

There was enthusiastic support from Heads and Management Committees. Each SIP TAC visited brought us into contact with the Chair of the TAC Management Committee, either on the TAC premises or in one of the associated primary schools. The three we talked to knew an impressive amount about the Project, the TAC and its personnel, and the schools. Their sense of pride in their involvement was tangible, but never uncritical or complacent.

We feel that the impact of SIP is best illustrated through the case of one school visited in January 1998. The school had been a SIP project school in 1997, with inputs not only from the TAC-tutor, but also from the PO working intensively with this school as one of 3 receiving this focus over the year. In 1998 it continued to participate in TAC activities but without the services of the PO who had shifted his scheduled inputs to the next group of schools in the zone. However, he continued to visit the school informally and to encourage the teachers in their efforts.

Pupils at work in this SIP Primary school.

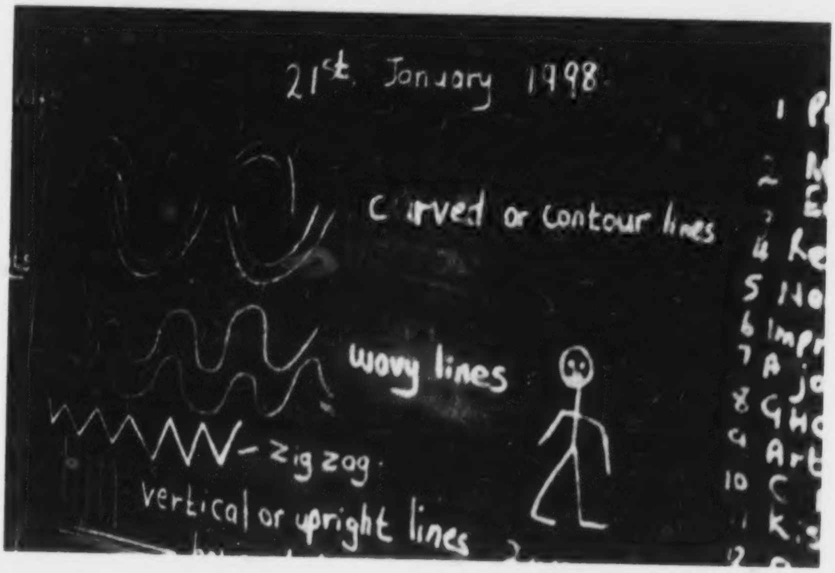
Note the concentration of the 2 girls working on their Maths problem.

While recognising that this school represents the extreme case, we both described it as the most energetic State Primary school we had seen in Africa! Every class we went into had abundant evidence of the focus of SIP's recent programme of development of reading skills. We walked into one second-year class, the pupils all hard at work. After the courtesies of greeting, they were soon back on task. This is itself unusual, the entry of a pair of visitors walking around, taking photographs, chatting to pupils, peering at books, poking in corners, always serves to hold the children's interest much more than any topic under study!

The air above the children was stiff with word mobiles, pictures mounted on card with labels on the other side in both Kiswahili and English, suspended from the rafters. A word-tree dominated the front of the class made of a tree-branch festooned with words on card.

The back of the class had a "curiosity corner" with all sorts of artefacts all labelled in both languages. A pile of commonplace containers of different sizes lay in a sandpit in the other corner and were being used by pupils as part of their Mathematics work on measurement. The chalkboard carried evidence of mathematics work. Times-tables on card occupied most of another wall made up of a screen "acquired" from the election booths. The school had been a polling station and the Municipality had been slow to collect its materials now pressed into service in the classrooms!

i) Pupils in the 'curiosity' corner where, as part of their Maths problem, they had been measuring quantities using different sizes of 'instruments'.



ii) Some of the boardwork from the teacher's input to the Maths lesson.

Two or three minutes after we entered the class a boy returned to his task pausing to refresh himself from the instruction sheet on his desk. Another lost interest in the visitors and craned his neck to watch a mobile spin in the wind, writing in his exercise book the word naming the object depicted. Two girls spontaneously joined another pair to compare their notes on the task on which they were engaged. Questioned, they were not overawed and explained exactly what they were doing. The teacher confirmed the accuracy of the girls' explanation later. All the children in the class could read in both languages to the limit of the targets set for them! This was the boast of the teacher and all the children we asked were able to support the claim.

All the other classrooms showed similar evidence if not quite as expertly used. The Deputy Head suggested that her teachers competed to have the best classroom with each new SIP workshop input being translated into action by all members of the relevant subject panel.

The teachers were very enthusiastic about being in the Project. The Deputy Head was extremely energetic and knew her school inside out. The TAC Committee Chairman was the Chair of the School's PTA. He kept drawing our attention to plaques on the wall - "The PTA built this (staffroom). The PTA is building that (classroom)."

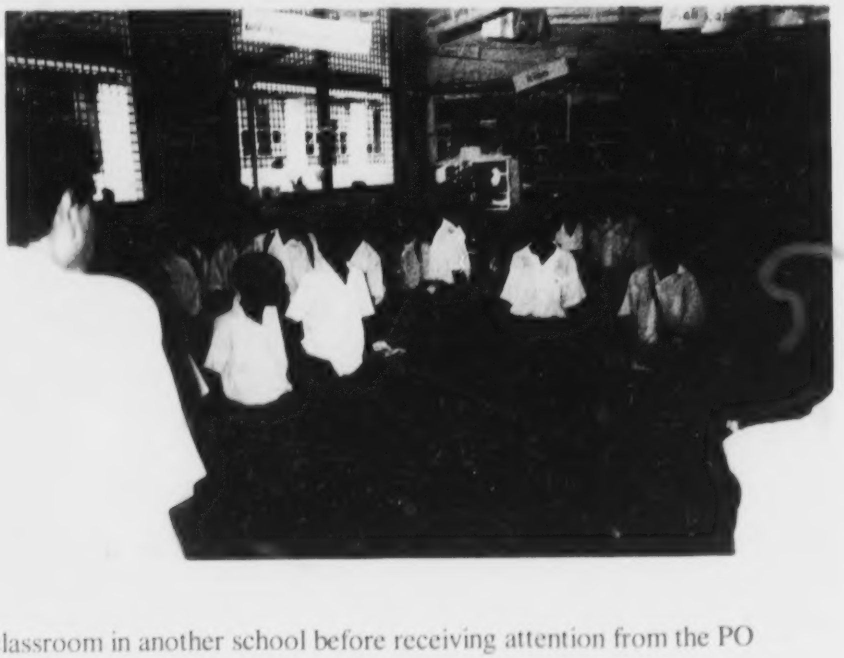
The PO was deeply committed and had a quietly effective manner with his teachers - always complimenting them on their work and always dropping the hint of one new thing they could try to move further. This school showed evidence of the impact of its TAC

BEST COPY AVAILABLE

through the involvement of all the parties – Committee Chairs, Heads and Deputies, .PO, TAC tutor, teachers and children.

This overall feeling of purpose in the school contrasted with the frustration arising from having to deal with an over-stretched and under-resourced Municipal administration. Recent flooding had damaged the toilets and the sewerage system. Daily letters from the Head to the Municipal offices had drawn no response, no reply to her constant pleas. Finally, the TAC Committee had stepped in and paid for a private firm of sanitary engineers to make safe this hazard to the health of the children.

i) Materials developed by TAC Tutor for a workshop



ii) SIP classroom in another school before receiving attention from the PO

The other SIP schools we visited also had abundant evidence of the transfer of the workshop ideas to the classrooms. Although the classrooms were less vigorous than the one above, they were nonetheless remarkable for the absorption of the pupils in their work, evidence of the same materials we saw in all the schools, TAC in-service workshop inspired, produced by the teachers to support learning. Always there was the enthusiasm of the Heads and their teaching staff.

i) Class 'shop' set up in SIP classroom for Maths work

Finance: The AKES funds the employment of the POs and provides the material resources of the TAC. The remainder of the finance for additional materials, In-service and teacher support comes from the levy on parents. The Headteacher transfers a set sum, round 50ksh per pupil per year, to the Management Committee TAC account. The Committee's treasurer is active in ensuring that all schools pay their dues.

Staff Development: The AKES has funded two programmes of Higher Degree study for its officers and others associated with the Project schools. The first of these programmes was run for the Kisumu SIP personnel and successfully taught in-country by the College of St Mark and St John, the University of Exeter. The Mombasa Postgraduate Diploma and Masters programme is a University of Leeds degree also taught in-country. This commitment of the AKES to the long-term intellectual development of its staff means that those staff feel valued as well as providing a sound theoretical base for the workshop activities they go on to mount.

3 Long-term influence of TACs

It is clear from our observations of TRCs, from the hiatus in the support of TACs which has accompanied the switch between SPRED I and SPRED II and from the lessons the AKES learnt from their work setting up a SIP programme in Kisumu, that sustaining a useful Teacher Centre system is a major challenge We now turn to this issue through a brief outline of the present state of the Kisumu TACs. The contrast with the Mombasa programme is instructional.

3.1 The SIP Programme in Kisumu

The Aga Khan Educational Service SIP project in Kisumu was started in 1990 and comprised two phases: Phase I from 1990 to 1993 and Phase II from 1993 to 1996. (Full details of the Project and its evaluation can be found in Capper, Nderitu, Ogula, AKES, Kenya, 1997.) The AKES moved to Mombasa leaving the Kisumu TACs to function under local and state support as was always intended under the plans for local sustainability.

During year one of the Kisumu project, the officers observed classrooms to assess the starting point of the teachers in a detailed needs assessment to determine the priorities for action and so that it might be possible to measure impact as the Project progressed.

Initial observation was followed by in-service workshops to train the local Primary school teachers. The AKES also mounted outreach courses in Nairobi for teachers who came from Kisumu, Nairobi and Mombasa with the general aim of improving teaching up to standard 4 in Primary schools.

Also in 1990, in conjunction with UNICEF and the Kisumu Municipality, the SIP programme developed a well-equipped District TAC situated in the Lake Primary school. It continues as the district TAC co-ordinating the nine zonal TACs which function today.

In 1991, three further TACs were established housed in local Primary schools. This was intended to take TACs closer to schools. Headteachers, TAC tutors, Inspectors and community representatives were involved and trained at the expense of the AKES.

TAC Tutors:	Were given training in management, Pedagogy, professional development, Library management skills, use of teaching aids.
Headteachers:	Were given training in leadership, financial management skills, Pedagogy, use of teaching aids, Development planning, Supervision of teachers.
Community:	Were encouraged to be involved to promote the notion of sustainability. Communities donated materials to help the TACs

function. They were involved in putting up shutters, cementing floors and burglar proofing the TACs.
TACs were also used as centres for courses in nutrition and disease-control run for local communities. Some of the TACs function as community churches over the weekends.

It was agreed with the AKES when the Kisumu SIP programme was established that parents of every child enrolled in school would pay towards TAC activities. The Headteachers collected the money and passed on 20% to run the TAC and fund the in-service activities of the TAC. The remaining 80% was for use in school to support teachers attending in-service courses at the TAC and for buying materials such as chalk, pens, teaching aids and science equipment to implement TAC inspired outcomes in their schools. The signatories to the SIP account were the Kisumu Municipality and the SIP Project Director who was the treasurer.

The AKES withdrew from its SIP Project in Kisumu in 1996, leaving nine established TACs. Kisumu now appears to be struggling to sustain its TACs as functioning entities. Despite the fact that the parents of each of 54,000 pupils enrolled in 128 primary schools pays 50KSh towards TAC activities, most Headteachers do not remit any part of this money to the SIP account. The systems established by the AKES to sustain the TACs and to ensure continued input to improve the conditions of learning in Kisumus's primary schools appear to have collapsed at the fundamental stage of transfer of funds from Headteachers to the SIP account.

Consequently, teachers attending TAC in-service courses, workshops and seminars do not get certificates because there is no money. There are no materials for seminars, so the teachers have to bring their own from their respective schools. The SIP Project Director and the TAC Tutors have to use their own money for transport and subsistence while on duty away from their offices. There have been no new books purchased for the District TAC since withdrawal of AKES funding in 1996.

"I visited Standards 2B, 3Y and 1Blue. There were some old charts on the wall and others in a corner in the classroom. The teachers had improvised coconut mats on the wall to act as pinboards. The teachers said they learnt how to make their aids in their training but the TACs had given them the impetus to make them. None of the classes had as rich a learning environment as that in Mombasa SIP project schools." (DK, fieldnotes)

There are now only seven Programme Officers for the nine established TACs. This is because one is pursuing a BEd course in Special Education at Kenyatta University and one became a TAC tutor. The stated plan is to interview replacements soon.

When the Aga Khan Educational Services wound up the project in 1996, it donated the two vehicles to continue to be used for the SIP project. One of the vehicles is used exclusively by the Town Clerk, never on TAC business. The second one is in the garage awaiting spares for which there is no money. A third vehicle, donated to the project by UNICEF-Kenya, is also in the garage. The Project Director and the TAC tutors have no transport. They are having to use their own money to visit schools to discharge their TAC duties. TAC programmes and influence are waning in Kisumu.

Parents seem resigned to the misuse of the TAC levy in the fees they pay to schools, appearing to add this to their experience of the failed promises of education in Kenya.

3.2 CONDITIONS FOR IMPACT OF TEACHERS' CENTRES IN KENYA

We would isolate a number of conditions for the successful impact of TRCs or TACs on teachers and pupils in Kenyan schools. None of these on their own is sufficient and it may be that all of them have to be in place if the TRC or TAC is to be effective.

Enthusiasm and commitment: Everyone concerned must be committed. This means close involvement of the Ministry, either actively participating or at the very least funding personnel and keeping in touch with developments. Education Officers must see that they provide emotional support in addition to finance and material means. They need to ensure that schools pass on to the Centres that portion of the pupil levy which is intended to support the activities of that Centre. Where these components of commitment were not evident or half-hearted, the Centres and their TAC/TRC-tutors were struggling. Teachers and communities placed their energies elsewhere.

Teachers and their Headteachers have to feel that they are supported both emotionally and materially. Enthusiasm is not enough. Teachers have to be able to attend the TAC/TRC without incurring personal expense and the Centre has to reward their attendance by having materials for them to work with as well as professional advice to help them implement Centre initiatives in their classes. Centre personnel need to follow-up their inputs, not in any token sense, but by adding themselves to the effort in the classroom and the staffroom.

The involvement of the community is a prerequisite. The SIP programme makes the active participation of the community through provision of the TAC Management Committee Chair and Treasurer an essential condition for the allocation of SIP resources funded by the AKES. The failure of the Kisumu Headteachers to pay the dues to run the TACs points to the need to have a strong independent account treasurer.

The absolute requirement to provide burglar-proof facilities for material storage and space for teacher-workshops draws the community into an initial commitment that is fundamental to sustaining the TAC. This initial and significant investment aims to commit the community to the enterprise of developing its teachers even as the Aga Khan/DfID funding is reduced. For instance, the outlay on burglar-proofing - heavy metal doors and bars on windows in a country where all steel is imported - and on facilities for workshops is substantial. However, if it is not forthcoming the AKES does not provide resources and set up a TAC in that school in the zone. The kudos attached to being involved in SIP appears to be strong enough for school PTAs to jostle for the honour of participation. The Mombasa SIP TACs we visited had all successfully attracted significant investment from local business people.

The SIP TAC Management Committee Chair was always a member of the local business community and not someone themselves employed in or by education. The Chairs we met were invariably deeply committed to the development of the teaching and learning aims of SIP. It is reasoned that continuing financial support is likely to follow if the initial community support is not to be seen as wasted. It is too early to say whether this will work in this way once the AKES completes its programme in Mombasa. The picture from Kisumu is gloomy, but such explicit conditional involvement was not established prior to the AKES scheme operating in Kisumu.

The investment in supporting the teachers is crucial. The AKES provides the PO to work closely with 3-4 SIP schools over a year. In addition to the TAC-tutor and the inspector employed by the Municipality, the Municipality also provides the area Adviser. This level of support is unique and contributes to effectiveness. The POs we met were outstanding people. The PO involved in the school described above was exceptional and his contribution to the energy we met cannot be stressed enough. Whether resources exist for such labour intensive investment outside a project such as SIP is an open question.

None of the SIP TACs were purpose-built, but the physical facility of the TAC appeared necessary for the in-service programme to run, for teachers to be able to work and consult, for storage of materials and tools and as a base for the Centre personnel..

The involvement of Heads and their deputies are also vital. Where things were working well, they were not just supportive, but active in their participation with the TAC or TRC even if that Centre was not located in their school. They not only made money available for workshop attendance, they appreciated the efforts of teachers and children. They involved themselves in the affairs of the community and shared their interests in the children.

Participating teachers have to be convinced that they are vital to the enterprise. Without their commitment and energy nothing would succeed. They have to want to travel to TACs, to be receptive to the ideas, to see the rewards arising from their participation (certificates leading to promotion, complimentary words from parents, support in the classroom from the PO and TAC-tutors, Heads and deputies.).

Reward for the TRC/TAC tutor: Since there appears to be little status associated with being a Centre-tutor and no extra salary, some incentives would appear necessary. SIP offers these in the form of a higher degree professional development programme.
Distances from the TAC/TRC: The most successful Centres, judged along many parameters, were those where teachers could move from home or school by foot. Even small distances involving travel put a barrier in the ways of use of the Centre or the frequency of contact between the teacher and the Centre-tutor. Distances greater than 10 km, even where public transport was effective, would seem to be too great for teachers and Centre staff alike. In fact, the threshold distance may be less than 5 km and actually be that distance which teachers are prepared to walk! There certainly seemed to be a direct relationship between the distance of a school from a TRC and its use of, indeed knowledge of the existence of, the TRC.

It is noteworthy that the AKES has set up its programmes in high-density population areas where schools (and TACs) are close to (within walking distance?) each other. It is highly significant that the AKES is currently planning to set up another SIP project in densely populated Vihiga, although there are many underachieving districts in Kenya from which to choose.

It is clear that Teachers Centres which can satisfy all the above conditions can only be established in a few places in Kenya. Perhaps that has to be recognised and resources allocated differently and not through a TRC/TAC system where such conditions cannot apply.

4 Suggestions for the future

4.1 Teacher Resource Centres

It is noteworthy that TRCs in Kenya are still functional, used and valued some 6 years after the cessation of external funding. They have sustained them selves to a greater or lesser extent over that time. However, Kenyan TRCs service only Secondary English teachers and thus their impact is limited to that subject alone. They were judged as effective by their closest and most frequent users. Their resources are envied by Primary schools tied into the TAC systems. They provide texts and class sets of readers unavailable to teachers except through TRCs. The usefulness of the In-service provision is more open to question and might only really be judged through intensive study of the carry through from the course input to the increased performance of pupils or changes to the pedagogy of attending teachers.

The TRCs we studied have no measurable impact on schools further than a few kilometres away.

The choices include:

i) Discontinue TRCs in Kenya. Use the premises as additional capacity in the schools where they are situated. Distribute their existing resources to local secondary schools. However, for the most part the schools have adequate space already and sharing resources would make no discernible impact on such under-resourced schools.

ii) Develop the TRCs in Kenya. There are only 25 TRCs and they service only English. They are only effective in neighbourhood schools. This development option implies equipping many more TRCs and broadening their subject focus to at least English, Maths and Science (as in the AIEMS project in Zambia?). The cost of this option suggests that adequate school-based resourcing might be as cost effective!

4.2 Teacher Advisory Centres

TACs and their personnel are welcomed by teachers who judge them to be effective in the support they offer. Evidence of effectiveness as judged by increased learning of pupils is difficult to substantiate in the SPRED TACs. Changes to the pedagogy of teachers is slightly more apparent, but evidence is largely anecdotal and circumstantial. Evidence from SIP TACs is tangible, but now needs to be backed up by a focused study of the transfer of learning both to teachers and to their pupils.

The SIP In-service programme is well co-ordinated across the zones of Mombasa, but at present it could be said that SIP is trying to improve on too many fronts rather than having a single focus for each of the 3 subjects. It has not devoted its efforts to a small number of agreed initiatives with concomitant materials production to support the pedagogy of teachers and their classroom activities to promote learning.. The way forward may be to identify that focus, develop the materials and the training programme, and devote the resources to making it work in the classroom. The literacy and numeracy initiatives in UK Primary schools might provide a model.

The SIP TACs have a much higher level of investment of people and materials than the SPRED TACs. This would suggest increasing the intensity of involvement of TAC personnel and schools, add to their resources, build in the community at the start to such an extent that their investment makes later withdrawal expensive and unlikely. That component of SPRED II, developing community involvement, is encouraging. It should also be noted that Mombasa is a strong business centre and the success of the SIP programme may be difficult to replicate where there is a less developed local economy.

However, these options seem tenable only in high density population areas where teachers can use their TACs and TAC personnel can be in school frequently and regularly.

Where populations and hence schools are more scattered – and much of Northern Kenya especially is still pastoral – other options appear more viable. These might involve resourcing schools more intensively with texts, increasing in-service work and providing in-service support with back up through published material for use by teachers. TAC news-sheets have been discussed elsewhere in this report. As with increasing the numbers of texts in schools, this is expensive, distribution difficulties have to be faced, but this option might prove to be more cost effective than extending the TAC network. A TAC with a tutor who cannot visit teachers sufficiently frequently to provide classroom advice is not effective. To have more TACs than the 1,300 in existence would eventually end up with a TAC in every school in sparsely populated areas. School centred resourcing is a viable option under such circumstances.

Brief consideration of the above would suggest that a flexible response is needed. There is a strong case for TACs and TRCs where teachers and Centre personnel can reach each other. Elsewhere, a range of different responses is appropriate and a mixed economy of teacher support is logical. All options will cost more than the existing schemes!

CHAPTER SIX

Teacher Resource Centres in Nepal

Gary Knamiller, Sharada Maharjan and Rakesh Shrestha

1.0 Introduction

> ***"Improving the quality of education is not simply a question of developing schemes or building physical infrastructure, injecting more resource such as materials, teachers and teacher training into the system. The management of such schemes and resources at the school level is fundamental."***
>
> **Tribhuvan University, 1997**

What we learned in Nepal is that teacher resource centres (TRCs) are only as good as the schools they serve. Unless the environment in schools is right, the messages and resources being disseminated by TRCs have little chance of taking root in classrooms. We learned that there is an absolute minimum set of conditions in a school that must be in place to allow it to 'receive' and act on messages and resources coming from TRCs. The most basic is that teachers are present in schools and working with students in their classrooms. Teacher, and headteacher, absenteeism is a very big problem in state run schools in Nepal. Another basic condition is for the school to have a curriculum management structure and some experience in curriculum planning as an all-school joint venture. There must be some sort of system in schools for absorbing and operationalizing the messages and materials that staff bring back with them from activities at the TRC.

TRCs in Nepal are physically apart from schools. Teachers leave their schools to come to them, and TRC staff, for the most part, have neither time nor transport to follow-up teachers and programmes into schools to the extent needed for up-take. The school is virtually on its own in planning and implementing change.

The focus of this case study in Nepal is on the relationship between TRCs and schools. We will attempt to paint a picture of TRCs and how they work and to contrast this with a picture of schools as we follow teachers from TRC courses and activities back to their classrooms.

2.0 TRC Systems Described

There are two systems of TRCs in Nepal. Primary TRCs, called Resource Centres (RCs), are within the Basic and Primary Education Project. Secondary TRCs are called Secondary Education Development Units (SEDUs) and are within the Secondary Education Development Project. Although they are completely separate entities, having different administrations, physical facilities, personnel and management practices they do share the general purpose of being a venue for certificate up-grading courses, for dissemination courses for new curricula and textbooks, for the distribution of some resources to schools and for hosting various local education committees and events. This report considers both the primary and secondary TRCs.

2.1 Secondary Education Development Units (SEDUs) - the Secondary Education Development Project (SEDP)

> ***"The activities of the SEDU during the fiscal year 2053/54 (1996-97) have been to enhance the quality of education in the area. Teachers have received training in teaching methods, practical work and updating in curriculum content, related to lower secondary and secondary education. The new teaching methods have been activity centred to encourage pupil-centred activity within the classroom. Teachers are encouraged to adopt these methods on returning to their schools and to share them with their colleagues at the schools."***
>
> **SEDU Bulletin, Chitwan 053/54**

Secondary Education Development Units (SEDUs) are TRCs which have their own set of 3 buildings located on a secondary school compound. The centre piece is the professional block housing a large teaching room with flat tables and individual chairs (as opposed to benches), a store room, a preparation room, and an office for the SEDU Master Teacher (SMT). Besides the SMT there is also a clerk, a peon and a chowkidar. A few SEDUs have VSOs assigned to them. The complex includes a residential hostel which can accommodate around 30 and a house for the SMT. There are 25 SEDUs scattered around the country, each serving between 1 and 4 districts.

Secondary Education Development Project (SEDP)

SEDUs were built and began life as Science Education Development Units in around 1985 as part of the previous UNDP/UNESCO Science Education Development Project. They were inherited in 1991 by the currently operating Nepal Secondary Education Development Project in 1991. The British Department for International Development provides technical assistance to this project costing around $4 million. His Majesty's Government of Nepal is contributing $3.2 million, and the Asian Development Bank provides a loan of $8.6 million. The total cost of the project over the 5 year period is around $15.8 million. This is a very big, comprehensive project. It includes curriculum and textbook development, examination reform, benefit monitoring and evaluation, research, providing books and equipment and 'enhancing teacher effectiveness and competency.'

SEDUs play a major part in the in-service teacher training programme for secondary school teachers. Some 15,000 untrained secondary teachers are targeted for a four week, full-time, residential teacher education programme in SEDUs. Although training under the previous project focused almost exclusively on science and had approximately 3000 participants, SEDUs now include courses in Nepali, English, mathematics and social studies in addition to science. Quite recently short in-service courses in school management for headteachers are being held at SEDUs as well. The 25 SEDUs answer directly to the Secondary Education Development Centre in Kathmandu which works closely with the Curriculum Development Unit in planning in-service training and producing training materials.

"The SEDU complex in Pokhara, with the professional block shown here with the VSO English language trainer and one of our team; the residential hostel with its SMT in the middle and members of our team; the SMT's house"

SMTs are principally in-service training course managers. On average they co-ordinate 8 or 9 courses each year. While each SEDU has local development and implementation committees, the responsibility for selecting teachers to come on courses and the day to day running of courses falls principally to the SMT. The SMT is also a trainer on courses dealing with his own subject specialty, at his own SEDU and at other SEDUs as well. When he is not busy with on-site courses, the SMT is suppose to visit schools, following up past participants. This is a daunting task, however, as over 200 teachers pass through their SEDU each year. Even with the intended help of part-time, associate senior teacher trainers few course participants are ever 'observed' in their classrooms.

2.2 Resource Centres (RCs) - The Basic and Primary Education Project (BPEP)

> ***"The Resource Centre is the 'heart' of the Basic Primary Education Project... to realise educational development at local level. The Resource Person... helping the RC Management Committee in planning and implementing the cluster school programme will bring educational activities to the doorstep of the schools."***
>
> **An Information Brochure, BPEP, 1992**

Resource Centres (RCs) are teacher resource centres at the primary level. They are intended to be the focus of educational development within a cluster of 10 - 25 primary schools. Whereas there are only 25 Secondary Education Development Units, serving secondary schools in 1 to 4 districts, there are in the region of 700 primary Resource Centres serving over 9000 primary schools in 40 districts. Unlike SEDUs which are directly responsible to their central management (SEDP) office in Kathmandu, RCs are directly responsible to their District Education Office, which in turn responds to the BPEP central office in Kathmandu.

BPEP ORGANIZATION STRUCTURE

Ministry of Education and Culture

Policy Implementation Board

Project Implementation Unit

Research & Evaluation Unit	Primary Curriculum & Textbook Development Unit	Primary Curriculum Dissemination & Resource Centre Development Unit	Non-formal Education Unit	Planning & Programming Unit	Physical Planning Unit

Regional Directorate of Education

District Education Office

Resource Centre

The Resource Centres we visited are purpose built structures and are located on the compounds of secondary schools which have primary sections (an important point that we will return to later). These RCs have a large classroom furnished with tables and chairs, perfect for moving about to accommodate group work and practical activities. The large blackboards are readable, and while charts and posters commonly appear on walls they most often contain information about the administrative structure and aims of BPEP. Few teacher made materials are in evidence. There is an office for the Resource Person (RP), but it is not so well equipped with reference books and typewriters, or indeed a clerk, as are their SEDU cousins.

Effectiveness of teacher resource centre strategy

"Primary Resource Centres in the southern part of the country and in the hill area."

RCs are intended to be multi-purpose. They act as a training centre for teachers, a materials development centre, a teachers' library, a parents' meeting centre, an examination centre and a community hall. Major training courses at RCs are: basic training courses of 150 and 180 hours which focus on teaching methods, educational materials, learning strategies and evaluation; and courses in school management for head teachers; grade specific curriculum/textbook dissemination workshops; grade teaching and multi-grade teaching courses. (It must be noted that the 150 and 180 up-grading courses are being moved to newly established 'training centres'.)

The RP has an unenviable task. On average throughout the country RPs have 2 RCs to look after and a consequent increase in the number of primary schools to deal with. Besides co-ordinating in-service courses and various cluster committee meetings (e.g. the monthly meeting of headteachers and the examination committee for the development of end of year and the grade 5 primary leaving examinations which are set at district level), the main work of the RP is supposed to be in schools, advising and supporting headteachers and teachers. Merely getting to schools can be a major problem, particularly in rural clusters where distances to schools can be considerable. Once there, however, school-based support is frequently confused by a murky delineation between the work of the RP and that of district supervisors. This lack of clarity of purpose is in the minds of both school staff and the district office personnel. In addition, the usefulness of advice is often diminished by the absence of a focused plan of curriculum/pedagogical reform, such as, for example, improvement in number work in grades 3 and 4.

1.0

2.3 Critical comments about TRCs

Before taking a critical look at the work of SEDUs and RCs the point must be made that although these two programme have been around for quite a long time, particularly SEDUs at over 10 years, the superstructure above them, and upon which they are dependent for purpose, direction and funding, continues to shift about, sometimes quite dramatically. There have been, for instance, a number of different aid organisations and various emerging priorities. Most importantly, however, is the constantly changing political scene in Nepal, a country experiencing only its sixth year of democracy. Politics plays a significant role in education, at the national level certainly, but at the most local of levels as well. The education system seems to be in a constant state of flux, and neither SEDUs nor RCs are left untouched.

Critical comments about TRCs in Nepal, then, must be viewed against this continually changing context. Programme are developing and improving. The capacity building that is going on throughout education, in terms of people and materials, and the competence and commitment of many of those working in these development programmes are encouraging indeed.

Field Study Methods

The field study, conducted by myself and three Nepali colleagues associated with BPEP and SEDP programme, was done in 3 phases during the period January 1997 - February 1998. During the first phase of only one week we outlined the work and gathered materials relevant to the activities of RCs and SEDUs, particularly training manuals, teacher workbooks and resources used in training courses. In this regard we also visited one SEDU and an RC and a sprinkling of their satellite schools.

The remaining two phases, of 2 weeks each, were devoted principally to visiting regionally based SEDUs, RCs and schools with teachers who had recently attended courses at these teachers' centres. At each centre we gathered more 'traceable' practices and resources. We spent a week in each of four regions. In total we visited 4 SEDUs, 14 secondary schools and observed some 40 lessons; 7 RCs, 11 primary schools and observed some 30 lessons.

3.0 Teaching Observed

3.1 Teaching In SEDUs and RCs

Sitting in on training sessions at SEDUs and RCs you could be excused for believing you were in similar in-service training courses in the UK. You would likely be comfortable with the instructional styles demonstrated here. There is some lecturing, of course, but much of the time is given to small group work. Teachers are huddled together discussing an exercise in their training workbooks; they are playing with hands-on materials; they are designing charts and 'improvised' teaching aids. Presentations and discussions feature prominently in plenary feedback sessions. And, on longer courses, such as the 150 hours basic training for primary teachers and one month subject specific courses in science, maths and languages for lower secondary teachers, participants observe demonstrations and trial sample lesson plans in live classrooms, if not always given sufficient time.

"Inside TRC courses where active, participative methods are very frequently used"

In-service training courses are well planned and supported with resource materials. There are detailed training manuals prepared centrally in Kathmandu, and trainers are trained in how to use them. For the most part teachers and trainers appear to be having a good time, professionally and socially. In our interviews with teachers they all say how much they like being on these courses. One teacher's comments about her RC is very representative: "It (RC) is a nice building. There is a chance to talk with other teachers. The new teaching methods are interesting."

Approaches to English Language Teaching on aSEDU Course

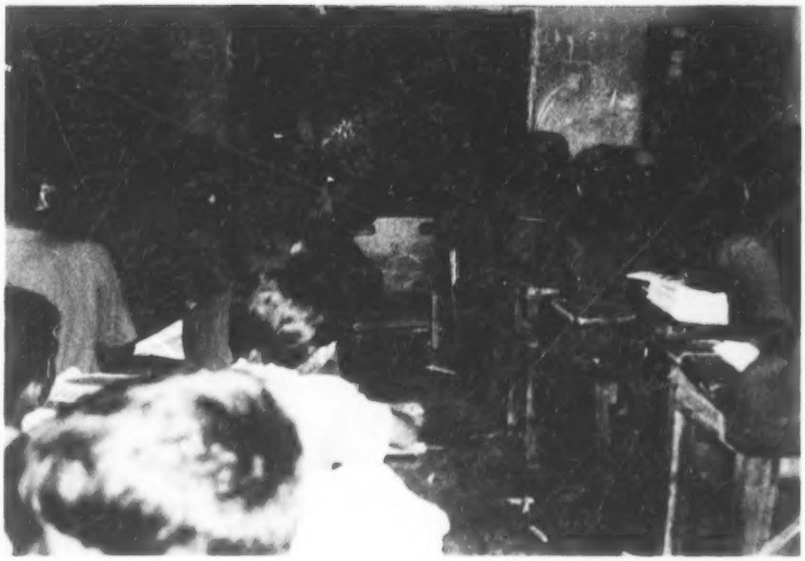
Presentation
create situation
model key sentence
students reproduce key sentence
check students' understanding of new language item
Practice
correct students' mistakes
whole class drill
group drill
individual drill
repetition drill
conversation drill
pair work
Production
students perform for whole class
students work freely
pair work
teacher does not interfere
students use own language
small group work
discourse chain
small group discussion
role play

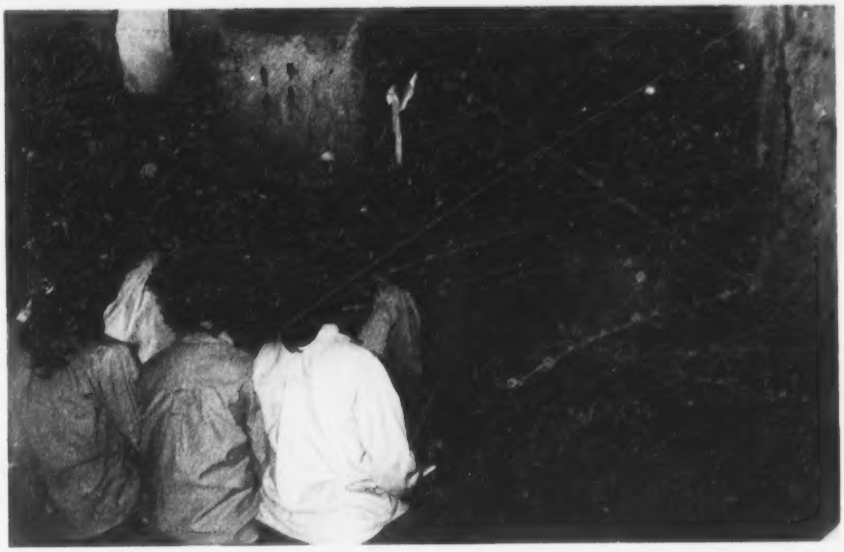
Teaching and Learning Aids
flash cards - and different ways to use them
matchstick drawings
flannel board
plastic covered wall chart as a 'white board'
ready made pictures
model clocks
songs and rhymes
language games

What brings us starkly back from our musings of how similar in-service training programmes are around the world are lingering images of our visits to schools. The contrast between teaching methods and conditions for learning at SEDUs and RCs and the teaching methods and the conditions for learning in schools is like night and day.

3.2 Teaching in Schools

We must consider first the context within which teaching takes place. Nepal is one of the poorest countries in the world. Although there are a few good looking school buildings, several newly constructed, the great majority are quite basic. Most of the classrooms we visited are stuffed with long benches and matching long thin, communal desks which are frequently broken and not adequate for the numbers of students. Schools are poorly resourced, primary schools considerably more so than the average secondary school. There are very few teaching aids and learning materials. There is no provision for supplementary materials of any kind and libraries, either school or classroom, are practically unknown. It is extremely rare to find anything on classroom walls other than the blackboard, most commonly a dull shade of dusty grey, pitted, resistant to chalk. As an attractive teaching and learning environment most government schools in Nepal, whether secondary or primary, are very unattractive, at least to the western observer. Indeed, it is only the faces of children that brighten most classrooms.





"Classrooms in primary secondary schools. Some schools have better facilities and some worse than these"

3.2.1 In regards to teaching

Rather than give a detailed report of each lesson we observed, it might be best to give a description of a typical lesson. While we did see some good teaching, for the most part there was depressingly little variation among the primary and secondary classes we observed.

The scene was virtually the same in every class - absolutely nothing on the bare walls, students crammed onto immovable desk/bench furniture *(commonly 50 and above students in secondary classes, although somewhat less at the primary level)*; the relevant textbook, perched on students' stack of other texts and copy books, opened to the given page of the day, eyes front and centre. Not a copy book was opened for students to take notes, to write an answer to a question or problem.

Impressively almost all pupils had their own texts and copy books all neatly bound in paper covers. This is a great achievement. And, new textbooks and teachers guides and short 'textbook dissemination' courses are appearing as part of the planned development within both BPEP and SEDP.

"The textbook is the chief resource for both teacher and learner."

The teacher, too, had his copy of the student text, lecturing from it for long periods of time, occasionally moving to the blackboard to reiterate a section of text or to draw an exact diagram from the book. Occasionally s/he asked a question from which s/he expected and got a chorus answer, repeated several times. Once-in-awhile, individual students were asked to stand and recite, but rarely by name. *(We checked and found that few teachers knew the names of their students.)* Very occasionally, and invariably in the schools which had advance warning of our coming, the science teacher had sent children out to get some piece of equipment or plant to illustrate the lecture. The 'visual aid' was usually a three dimensional version of the example in the textbook.

Courageously one teacher tried to do the collapsing tin due to air pressure demonstration, but it did not work as the tins the children brought were very small and fell through the grid of the kerosene cooker. Obviously this demonstration with this apparatus had not been tried before. There were no questions to illicit the observations of students. Neither was the class encouraged to ask a question. In a few classes, mainly in maths and science, the teacher had a child do a problem on the board - other students simply watching, not having been instructed to try the problem themselves in their copy books.

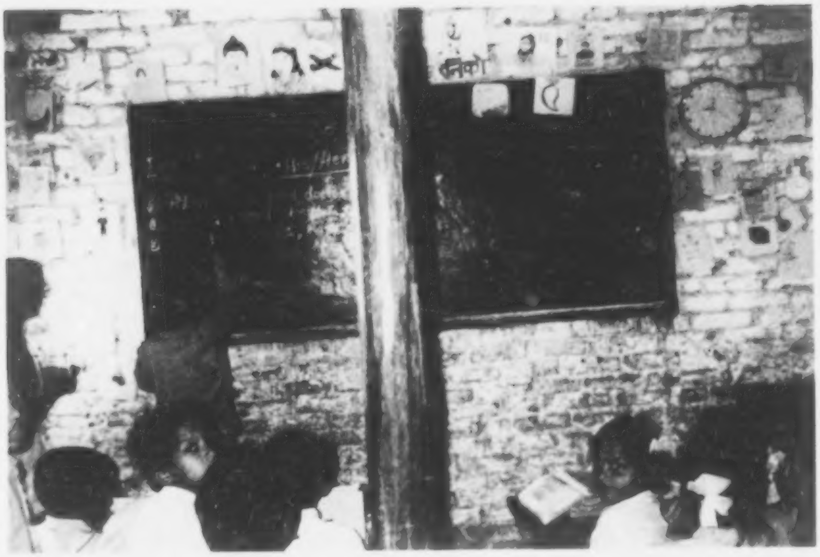
The lesson closes with the teacher giving homework which either consisted of having the children copy sections of the text into their copy books or responding to questions which required copying sections of the texts into their copy books. *('Copy books' are aptly named. Students transfer neatly what they copy in their copy books into their exercise books as homework.)* We looked at the children's exercise books and, in the main, found scarce evidence of them ever having been marked. But, then, why mark books that contain little more than copied texts? We acknowledge that it is too much to expect teachers to frequently mark so many books. But there was no evidence to suggest that exercises or problems were given as homework and that methods for going over them in class and arranging students to check each others answers were employed.

Good Practice - Notes from Teaching Observed

- Class 4 - English on the topic 'her and his'. The teacher has almost all of the 61 children working in a variety of ways. Her own blackboard work is great. She has a couple of pictures of a boy and a girl which she obviously drew herself on pieces of cardboard, and she uses them as puppets talking to one another. She does whole class choral response, but group and individual response as well. She has several pupils come to the board to write a pattern, and amazingly has the rest of the pupils doing the exercise at the same time in their exercise books. After the board work she gives them more written work, and she moves about the class checking it. She even asks the children to "Make one question?" following the pattern she has set on the board. She had obviously planned the lesson and used something more than just the textbook She knew the children's names. (The teacher said she got many of her ideas and techniques from the 150 hour course she did at the local RC. Before that she was an untrained teacher.)

- Class 8 - Social Studies on the topic of the differences between two-dimensional maps (of the world) and globes. It is just before lunch break and we arrive 10 minutes into the on-going lesson. Impressively he had a large wall map hung on the front wall and a globe. It is obviously a new lesson for the children, 56 of them cramped into a very confined space. The teacher has drawn a chart for comparing the two kinds of maps on the blackboard and the students are copying it into their exercise books as he lectures from the 2-D map and the globe. He fills in some boxes, but leaves several blank, and calls individuals to come up to fill then in. While individual students are at the board, the others confer with their neighbours and fill in their own boxes. The teacher tries to squeeze about the class checking students' work and frequently directs them to look again at the map and globe. The students are very enthusiastic. (This teacher has recently returned from the month long social studies course at the SEDU. He said that he got the idea for this lesson from the course.)

Comment: By any standard these 2 lessons, these 2 teachers were impressive. It points out how much of the content of RC and SEDU courses is relevant to classroom practice. We keep asking ourselves, why, oh why is so little of it transferring back to classroom teaching and learning?



"Using ideas picked up from TRC courses."

3.2.2 In regard to resources

One of the most 'traceable' resources is science equipment. SEDUs in particular are distribution centres for getting science equipment to schools. Much of it is used by teachers in practical sessions on science in-service training courses at the SEDUs. Much of this equipment and apparatus can also be found in schools, in 'prep rooms', locked in cupboards. And, when you can find the key and open the rusted doors typically there are shelves packed with broken, some workable, completely unorganised apparatus. The dust and grime is thick. In a school that houses a SEDU and where the senior science teacher is a trainer on SEDU science courses there were 2 boxes full of scores of little plastic bottles containing a liquid. He did not know what they were. A set of teachers' guides sat in their plastic wrapping unopened. A globe was still in its plastic wrapping. In another school the science equipment distributed by the SEDU and observed in their boxes by one of our researchers in a previous visit some 4 months ago was still unpacked. This was by far the most common situation we encountered in all the schools we visited.

Besides science equipment there are maths materials and teacher made charts and posters that feature in TRC in-service training courses, and should be traceable to classrooms. We saw very few being used or any evidence from looking back through students' exercise books that they had been used. There were some charts, mostly commercially produced, in staff rooms, scattered about and full of dust. In only a very few lessons did we see any use of material resources. Primary teachers returning from courses are given a white, cloth pocket chart intended to be used for holding 'flash cards' of words and numbers. Several teachers brought these with them to the lessons we observed. They dutifully hung the pocket chart on the front wall by the blackboard, but only one teacher out of the 8 who brought them to the classes we observed actually used it. All the pocket charts were very white, unsoiled by use.

To sum up all we can say is that there is extremely little observable evidence of the transfer of pedagogical messages or resources from SEDUs and RCs to the schools, classrooms, lessons and students' exercise books we visited, either in the way teachers teach, or in the way students are learning, or in the improvement of the general conditions for learning in schools. We saw very traditional teaching, indeed, and little active learning except students memorizing the text.

We must remind ourselves, at this point, that our judgment of the teaching and learning we saw in schools is not based on some external criteria of what is 'good practice' and 'active learning'. Indeed, we feel that chorusing answers, copying notes and memorizing are perfectly legitimate active learning practices - applied in moderation and together with other mind stretching activities as well.

Our assessment of teaching and learning is based on the messages that are being put forward in in-service training courses at SEDUs and RCs, such as students doing paired oral drills, drawing pictures in response to a poem, teachers and/or students using small pan-balances in maths classes, teachers and/or students doing a science investigation, all of which teachers had done at their teacher centres. Of these, we saw very, very few in practice or evidence of them having been happening by consulting pupils' exercise books.

4.0 Impacting On Schools

4.1 Searching for explanations

Why is it that the work of teacher centres in Nepal appear to be making so little impact on schools and classrooms? There are many possible reasons for this lack of transfer of pedagogical messages and resources from TRCs to the schools and classrooms we visited. They may be deep within the cultural milieu that surrounds education and social relationships in Nepal. Perhaps the views of child development and how learning takes place clashes too dramatically with western constructivist philosophies of learning and teaching. What do 'child-centred' and 'active learning' mean? Perhaps teachers are overwhelmingly concerned with feeding their families on a teacher's wage in the face of rising costs of living and expectations. Recognising that these are serious concerns which form the backdrop of any analysis of the situation, the job of this study, nevertheless, is to consider professional education and technical matters.

In regard to professional and technical matters we would suggest that both teacher centre programmes in Nepal (SEDUs and RCs) are based on the assumption that the individual teacher, not the school is the unit to be targeted for change and improvement in the quality of learning. The assumption is that training one teacher to teach their classes better will positively influence teaching and learning across the school. This, we feel, is a flawed assumption. In Nepal there are two fundamental and intimately related reasons why we believe this is so:

- **On the side of schools** - *there is neither a management structure nor a positive professional ambiance in schools for the improvement of curriculum and instruction via teacher colleagues returning from SEDU courses.*

- **On the side of teachers' centres** - *the topic of 're-entry' to one's school, including managing teaching and learning target subjects across the school, is given too little practical consideration in in-service courses.*

In regard to schools, particularly in secondary schools but also in larger primary schools, there is no management structure for planning and implementing the curriculum across the school. Curriculum planning is confined to whatever individual teachers decide to do in their classes without reference to other teachers or class levels in the subjects they teach. The textbook is the sole curriculum guide.

Many of the schools we visited have classes 1-10. There is a head teacher and a deputy head. There is no one with particular responsibility to oversee the primary section, or the lower secondary section or the higher secondary section.

More to the point of this study only one of the 14 state secondary schools we visited had subject based departments, and it had only three departments - science, computer studies and examinations. Staffing arrangements do not include heads of departments or subject co-ordinators. On the whole there does not appear to be a management plan for the delivery of mathematics, or Nepali or science or English or social studies curricula across the school. Science is particularly obvious in this regard as it takes careful planning of the timetable and room bookings to do any sort of practical work when classes are large and where space and materials are limited. But other subjects, too, have their management requirements and needs for systematic planning over the school term if more active learning approaches are to be realised.

In regard to SEDU and RC programme there is little on courses to do with how teachers can involve their colleagues in considering the messages and resources brought back from TRC courses.

A particular incident in the staff room of a 1-10 'secondary school' illustrates the 're-entry problem. A teacher who had recently returned from a one month SEDU mathematics course for lower secondary which focused entirely on classes 6 and 7 mathematics was not teaching these classes at all. He was teaching class 8 maths and above. The head teacher said that there is no particular reason for this, but that is just the way the timetable worked out. We suspect, however, although we did not pursue the matter, that the trained maths teacher was assigned to teach class 8 because there are district level exams at class 8, that the person having the most recent training, regardless of its focus, would be the teacher most likely to do the best job of preparing students for the exam. *(It is important to note that courses touch very little on examination preparation, a topic that is closest to the heart of all teachers.)*

During this discussion another mathematics teacher who teaches classes 6 and 7, and who had not been on a SEDU course, started to complain that the class 8 teacher had not shared anything of the SEDU course with him or any other maths teachers in the school. This caused quite a stir as the blow up took place at lunch time with all staff in attendance. The teacher who was on the course said, "I was on the course to learn to teach children, not teachers." To this teacher at least the in-service training course he attended was for him, and him alone. During a lull in the argument, we asked the head teacher if the topic of how the school can benefit from those returning from courses was considered at the 3 day Head Teachers' Management course which he recently attended at the SEDU. He said that it was mentioned but only in terms of the need to consider it. Developing a management plan to do so was not considered.

Another major problem is that teachers have to do a lot of 'restructuring' of the content they engage at in-service training courses in order to use the methods and materials in their classes. One teacher who had been on a SEDU science course, for example, said that he could not do the activities they did on the course in his own classes, "... because the sessions on the course were 90 minutes and the teaching periods in school were 45 minutes." While on the surface this may seem a rather lame excuse for not doing practical work, it reflects the difficulty teachers have in restructuring what they have done on a course for their own teaching situation. He went on to say that practical work on the course was done with only 26 or so fellow trainees, but he has classes of 50 and above. He said that he thoroughly enjoyed the course but mentioned the advantages of space, tables and teaching assistants at SEDUs which he could not replicate at his school. While courses never suggest that teachers can replicate in their classrooms the exact methods used in training, it does suggests that teachers need instruction, and indeed practice, beyond the one practice session they now do as part of current courses. Also, there needs to be more about planning and managing the teaching of a subject over a period of a unit, a term, a year.

The selection of teachers for training on both SEDU and RC courses is very possibly another cause of the lack of transfer of new teaching methods and materials from courses to schools and classrooms. Priority for training is given to untrained teachers for the purpose of up-grading. Senior teachers, those having been trained many years ago, are not selected for courses. Many teachers, headteachers, trainers and SMTs and RPs, as well, expressed the view that was succinctly put by a senior English teacher who had his BEd and an MA in English. He said that he has not gone to the SEDU English course, "... because it is for untrained teachers who are young and inexperienced."

The point, here, is that these courses, which have only recently come on stream within the last 3 years or so, are innovative. They emphasize a more active approach to teaching and learning in classrooms. Senior teachers back at schools are hardly likely to be open to new messages brought back by 'trainee' teachers.

We put this point to a meeting we had with an SMT and a head teacher, himself a science trainer. They agreed that little transfer takes place. So, we offered them the idea of having all same subject teachers in the school, from both junior and secondary levels, do at least some aspects of this new training together. They both immediately said, "But, that would not be possible, the content is so different!", meaning the content (of the same subject) for junior secondary teachers would be fundamentally different from the content for secondary teachers. We replied that we thought the focus of courses was on subject pedagogy, curriculum implementation and the improvement of teaching and learning the subject across the school. They politely nodded, holding the more important knowledge to themselves that in the end it is subject knowledge, presented as discrete facts, as confirmed by the factual, recall style of examinations, that is important. The conceptual themes and skills running through a discipline and more active, thoughtful approaches to handling information, which is the focus of much of the work at TRC courses are not really that important.

Curriculum is in textbooks. Following it together with preparing examinations based strictly on the text is curriculum management. There appears to be little consideration of subject content or methods of teaching and learning between one year and the next. We did, however, encounter an example of where curriculum planning is beginning to take form.

During a discussion about curriculum planning with the headteacher of a very large urban secondary school, he produced an outline of a curriculum plan developed by the 'Municipality Level Examination Committee'. This was the closest thing we had seen to any such planning at all. It was an outline of a year's scheme of work. Chapters from relevant textbooks were divided into 3 'terminal exam' columns with statements of knowledge content objectives under each set of chapters. This was impressive indeed. But, the local SEDU had no part in the development of the plan. Indeed, this was the first time the SMT and the VSO, working in the SEDU for the last 8 months, had seen it. It must be point out that this headteacher is the chairman of this SEDU's management committee and he sits on its co-ordination committee as well. It is difficult not to conclude that this SEDU, at least, is not seen as having a role in local education affairs. Rather, it is viewed solely as a venue for in-service training courses, a role which does not extend beyond the training of individual teachers.

Selecting untrained teachers and pulling them out of their schools to attend courses at teacher centres does not, we think, contribute to the improvement of teaching and learning in schools. Indeed, it may even acerbate the problem. It certainly adds significantly to the teacher absentee problem.

4.2 Follow-up from Teachers' Centres to Schools

The most obvious strategy for aiding the transfer of ideas from teachers centres to classrooms is for trainers to follow trainees back to their schools and support them in implementing new content and methods. And, to the credit of both teacher centre programme plans for 'follow-up' had been incorporated into their designs right from the start. In the Secondary Education Development Project, SMTs and their temporary associate trainers, themselves full time teachers in schools, are suppose to visit trainees in their classrooms. They are supposed to be paid to do this supervisory work on a per visit basis. Guidelines and schedules are drawn up. The problem is that it just does not happen to any significant degree. In a separate study it was found that of 33 trainees receiving the 10 month course at a particular SEDU, a course which included 6 months of 'practice teaching' to include a series of visitations by senior teachers, none of trainee teachers had been visited.

There are several reasons for this. The sheer numbers of schools and trainees to visit and the related problems of transport and accommodation, in themselves, make follow-up an almost impossible task. But we found two other factors that mitigate against successful follow-up in schools. The first has to do with the assumption, mentioned above, about training individual teachers leading to quality improvement in schools. The intended plan for follow-up in both programme calls for SMTs and RCs, and their associate trainers and supervisors from district education offices, to be 'observers'. Trainers are supposed to sit-in on classes of individual teachers who have been on in-service training courses, to check

their lesson plans, observe teaching, give feed-back on the lesson and file reports on their performance. Planning forward and developing schemes of work rarely feature in supervisor's style of working with teachers.
Such supervisory practice does not bring in other teachers who teach the same subject. It takes the focus away from a consideration of the subject across the school. The idea obviously has been extended over from the practice teaching component of pre-service teacher training programmes where quality improvement of a school as a whole is not the objective.

A second concern in regard to follow-up in schools has to do with the perceptions of headteachers and senior teachers about their role as curriculum leaders in their schools. The following episode helps to illustrate the point. The headteacher of a class 1 - 10 secondary school, himself an English teacher and SEDU English trainer, taught a demonstration lesson for us. He had never taught this group of class 8's before.

There are around 40 students in the class. The headteacher does oral English, and he is absolutely brilliant. He uses all the techniques - group response, paired response, correcting and repeating, getting almost all students across the class participating. This is doubly impressive because it is obvious that the students have not done such work before, and the headteacher has to instruct them in how to do every drill. He even linked the oral work with having students do a written exercise based on the language patterns he taught. The exercise was not from the textbook.

After this lesson we congratulated him on this marvelous exhibition of teaching. He said that these are the methods that are taught on SEDU English courses. We asked him if his teachers teach English in this way. He said, "No, because there is no follow-up to the courses. No one comes to observe or supervise the teachers." My research colleagues and I, as we later conferred, were absolutely stunned by this response. We were too embarrassed to ask him the obvious question, 'Why don't you do it?' It just did not occur to him that he, as a SEDU English trainer, and, of course, the headteacher of the school, should be involved in supervising his teachers teaching.

Another small episode illustrates a similar feeling in primary schools. We had just sat in on a lesson of a primary teacher who had recently completed the 150 hours course at the RC. In discussions that followed with the teacher and the head we asked him if he or any of the senior teachers at the school observe 'new teachers'. He said that they did not, that they would rather wait for the new teacher to ask them for help if they feel they have a problem.

These are not isolated cases. The teaching and conditions for learning at the primary and secondary schools, located on the same compound as the teacher centre, whose headteachers sit as chairpersons of teacher centre management committees and whose staff frequently include senior teachers acting as temporary in-service training trainers, are indistinguishable from any other more distant schools.

5.0 Conclusion

It is difficult not to conclude that there is a separation, operationally and conceptually between the work of training centres and work in schools. The assumption in Nepal seems to be that the transfer of pedagogical messages and resources from TRCs to classrooms is unproblematic.

The aim of improving the quality of teaching and learning in schools is clearly stated as being the ultimate concern of SEDUs and RCs. But, we are drawn back to that statement of hope expressed in the BPEP information brochure of 1992 for primary RCs to bring educational activities to the 'doorstep' of schools. In light of our observations we feel that this statement was prophetic: ideas and resources for quality improvement have been delivered by TRCs to the doorsteps of schools, but there they sit. It appears to us that teacher centres in Nepal have not been able 'to open the school door'.

Obviously we are using the 'doorstep' statement in a way not intended by BPEP, and for this we must apologise. Our excuse for doing so is that it summarizes so clearly the dilemma facing educators in Nepal. What do we do with all these untrained and under-trained teachers? What do we do with all those schools following very traditional approaches to teaching and curriculum management?

Our thinking, although neither new nor revolutionary, is to focus on schools and the teachers within them rather than the other way around. Rather than targeting individual teachers and observing them teach discrete lessons in their classrooms, school-based training might more productively focus on curriculum planning in specific subjects across grade levels with the group of teachers teaching the particular subject targeted for improvement.

If there is a role for the teacher centre it would be in training and supporting subject co-ordinators for primary schools and subject department heads for secondary schools. But, in order to succeed such a shift in focus for TRCs would have to be preceded by the development of curriculum management systems in schools. And, it is hard to imagine the development of curriculum management systems in schools without the establishment of staffing structures which accommodate heads of departments and subject co-ordinators, and for these positions to be formally recognised with a salary structure to match the increased responsibility.

We agree with the conclusion of the Tribhuvan University (1997) study with which we began this report, that "...injecting more resources such as materials, teachers and teacher training into the system (is not enough)... the management of such schemes and resources at the school level is fundamental." In this sense, the introduction of TRCs in Nepal may have been pre-mature. Schools just are not ready for them. The expectation was that TRCs could drive improvement in the quality of teaching and learning in schools and classrooms by up-grading training for individual teachers in courses taken away from their schools and classrooms. We do not believe, now, that this is possible. Schools must first be helped to provide a more fertile environment for change and development. Whether or not TRCs can contribute to such an endeavor remains an open question.

Positive Outcomes of RC and SEDU Programmes

- RCs and SEDUs together with their local management committees present visible symbols of an attempt to decentralise educational provision and put more responsibility into the hands of local people.

- Educators are being made aware of the existence of new, more active approaches to teaching and learning. All teachers we talked with thought that the content of courses was very interesting and stimulating.

- In-service training courses are very well designed, specific to subject related pedagogy and supported with good trainee workbooks and trainer manuals particular to each subject.

- Courses for the dissemination of new textbooks has been very well received. The teachers guides are very usable, with the text from the pupils' book printed conveniently on appropriate pages of the guide.

- The evolution of Headteacher Training Courses in response to the need for better management practices in schools

- The rise of cluster level examination committees to prepare examinations for all schools in the cluster, organized through RCs, brings a common focus to schools.

- In summary, Although changes at the classroom level have been modest, in the larger picture, significant changes have come about in the formal education system in terms of institutional development, staff training and development, development of more relevant teacher training curricula. There is a budding awareness of the idea that learners should work with information beyond memorising it.

CHAPTER SEVEN

Teacher Resource Centres in Zambia

William Gibbs and Jason Kazilimani

1.0 Methods Used In This Study

In order to collect information about Teacher Resource Centres in Zambia and their role within the wider inservice programme(AIEMS) funded by the British Government we used two basic approaches, the collection of views and data through visits to primary schools, resource centres and district education offices. Attention was focused on the primary sector for two reason: it is the largest and most wide reaching sector and the one in which the centres were reported to be more effective. These visits were made over two periods of ten days each, one in September 1997, and one in April 1998, covering three provinces, over 20 schools and 10 resource centres, and involving individual interviews with a cross section of teachers, group discussions and lesson observations. We also collected information from Resource Centres about the nature of teachers visits during a sample month. We had hoped to follow up in some detail the workshops based around a particular skills module in the nation-wide INSET programme (AIEMS) but this proved impossible in the limited time. To our assessment of what we observed in a limited time both members of the study team also brought experience of the Zambian Primary classroom built up over 25 years.

2.0 The School System

Primary Schools go from Grade 1 to Grade 7 and aim to provide a universal primary education for all children They vary from single stream rural schools with 6 or 7 teachers, 4 of whom maybe untrained, to urban schools with 3 shifts coming in at different times of the day with over 1000 pupils and 30 members of staff, all trained.

Facts about Zambia	
Population	9.54 million
Population under 18	5.21 million
Population Density	11 per Km sq
Life Expectancy	43 years
Literacy Rate	54%
Enrolment in Primary	83%

To extend access to junior secondary education *Basic Schools* have been created in the last decade extending the education for more children to 9 years This has been achieved by creating Basic Schools which go from Grade 1 to Grade 9. These are upgraded primary schools developed to spread the access to junior secondary (Grades 8 and 9).

Many competent primary teachers are keen to upgrade their qualifications so that they can teach in higher grades. A major incentive to do this is the growth of Academic Production Units, which are in essence private schools held after normal school hours in the existing school structure. They are run by teachers, are fee paying and provide an important opportunity for suitably qualified teachers to supplement their inflation hit salaries.

Most *Secondary Schools* go from Grade 8 to Grade 12 but there are some Junior Secondary Schools which only teach Grades 8 and 9. Because of the size of Zambia and the relative low density of population many rural secondary schools are boarding. Access to secondary education is by selection based on examination results.

2.1 Observations of primary schools

We saw a wide variety of classes and many subjects being taught. What follows is a collection of some of our impressions of the positive aspects of teaching and learning that we saw together with some analysis of problems that exist in Zambian Primary Schools.

The medium of instruction at all levels is officially English and the standard of teachers spoken English is good. Nearly all teaching is from the front of the class, the blackboard is the major means of communication and presentation of written and visual information. Materials for schools were originally developed by the Curriculum Development Centre in Lusaka. Increasingly private publishers are, with Government approval, taking on the task of developing, publishing and selling texts to schools. One result of the present policy of decentralisation is an increasing autonomy for schools to make choices about which texts they use.

A classroom in a city Primary school. The fabric of the classroom has been improved through the use of a World Bank Micro Project Grant. All the children have desks, there are good blackboards. There is little else on the wall as the classroom will be used by two other classes later in the day and charts and posters disappear. The children are experimenting with containers of different sizes to find out which holds more. The teacher had collected a large range of bottles, jugs and cartons and the children came to the front of the class in groups to watch while one child poured water from container to container. This is not a typical class but it exemplifies the talent that exists among teachers.

2.2 Glimpses of good and bad practice in schools we visited

In an upper primary class in Mpika a teacher has developed his own extraordinary experiment in classroom democracy. Children take considerable responsibility not only for their own learning but for that of others in their group. They also grade the teacher regularly on his punctuality, fairness, and clarity. Not one child looked up from their group activity when we entered the room. All were intent on the task. The class has 50 children and some have to sit on the floor due to lack of desks. The walls are virtually bear but the blackboard is well laid out with the days tasks. By contrast, in other classes we visited children were sitting in 'token' groups, often with their backs to the front of the class but teaching was still from the front.

A reputedly weak teacher is taking a class on bodily functions. One child raises their hand and the teacher allows the question, "Please Sir why is my breath warm when I breathe out?" The teacher stops and thinks for a moment and then asks all the children to try breathing out across the back of their hands and to report what they feel. There is intense experimenting for a few minutes.

A young untrained teacher is struggling to teach long division of decimals. He gives several examples on the board and the children grow impatient to try one themselves. Eventually with a few minutes of the class left he sets them one to do. It involves division leading to a recurring decimal, something he has not shown in his examples. The children are puzzled.

A teacher is inadequately and slowly drawing a map of Africa on the board. In the Head teachers office next door are a whole pile of class atlases.

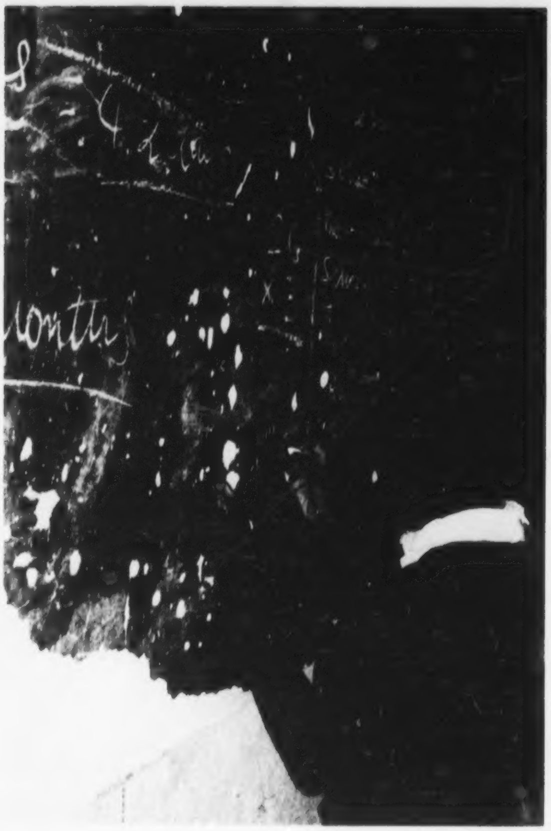
The topic is pests. The teacher of grade 5 has taught a lively lesson full of questions but then produces a small and rather badly drawn picture of a mosquito which does not fit into the theme of his lesson, presumably to demonstrate that he is "using drawings" as suggested in Module 4 of the INSET course.

By contrast a teacher teaching about the flag of Zambia has brought into class a small paper replica as used on Independence Day and uses it as the basis of questions and observation.

We visit a school near Kafue. In a small room that the school has converted into their own little resource centre and library children are returning books they have borrowed and an office orderly checks them off. A parent is sitting with one of the teachers. He is asking her advice on what books he should buy for his children. The school has just bought its own supply of books with the help of the PTA which it can sell on to parents, teachers and children.

We visit a rural primary school. All the teachers are absent at a funeral; all except one who is teaching her own class while the rest of the children mill around outside.

Another school and the same pattern. This time the teachers are all attending a meeting with parents. The children play somewhat aimlessly in the school grounds. The Resource Centre based at this school is also closed. The coordinator is away on a course and the assistant co-ordinator is in a school 15 miles away. This Resource Centre was converted from a classroom though the school is short of classroom space. Two Grade 1 classes now have to double up so that there are eighty in one room.



Conditions for learning vary from class to class and school to school. Books issued from the Curriculum Development Centre in Lusaka often take a long time to reach rural schools. A source at the centre described how up to 80% of one text failed to reach the classroom. Physically there are signs that schools are improving due to the Micro Credit scheme that supports parental and self help improvement schemes. Several of the schools have refurbished classrooms, with walls around the school to prevent vandalism and theft. But some classes still have appalling blackboards where it is virtually impossible to read what is written on it.

3.0 How AIEMS Works

3.1 The origins of Action for the Improvement of English, Maths and Science (AIEMS)

In 1989 eight English Teachers Resource Centres were founded in eight selected secondary schools. Limited book resources were provided, a typewriter and duplicating machine. This equipment was later upgraded to an electric typewriter. It was out of this project, and out of SHAPE, that Action to Improve English Mathematics and Science (AIEMS) grew. The Self Help Action Plan for Education (SHAPE) started in 1986 with the support of SIDA and aimed to enhance the capacity of schools and colleges for self help especially in the 'practical' subjects, agriculture, industrial arts and home economics. It set up a structure of provincial, district, zonal and school based committees.

The perceived success of the English Teachers Resource Centres and the work done within the SHAPE project is cited in the ODA appraisal documents which developed the basis for the AIEMS programme as a justification for the expansion of the resource centre model. The organisational structure of SHAPE reappears in AIEMS and many of the SHAPE centres have been developed to become district Resource Centres within the AIEMS programme.

It is, however, worth commenting at this stage that the SHAPE centres had encountered difficulties in implementing change in the classroom, and that three of the characteristics of the earlier project in English were that the centres were:

a) secondary based
b) centred around small school-based resource centres
c) subject specific.

The National Resource Centre for SHAPE.

SHAPE as one of the predecessors of the AIEMS programme aimed at encouraging teachers to be self reliant in the creation of teaching and learning aids. Many of the District Shape Resource Centres were incorporated into the AIEMS TRCs. In Lusaka the National Centre now houses a considerable number of unique teaching aids developed by one imaginative teacher who has used low cost materials such as seeds, paper and papier mache to create a wide range of display items; a periscope made from papier mache. A mat made from seeds, portable blackboards made from hardboard. But the take up of these materials and ideas and use in the classroom has been negligible. For ideas to be viable on a larger scale they need to combine **low cost** with **low preparation time** and **multiple use in the classroom.**

The role of resource centres as designated in the project planning document for AIEMS in 1993 is outlined in two sentences:

> *'INSET delivery capacity will be expanded by building and equipping 14 provincial resource centres and equipping 57 district resource centres.'*
>
> *'The INSET will enable teachers to make better use of the learning materials coming into schools.'*

3.2 Development of the ideas behind AIEMS

How AIEMS was to be implemented is further developed in materials produced by AIEMS itself in the Management Module, (AIEMS 1994)

> *'To improve the quality in the teaching and learning of English, Mathematics and Science*
>
> 1. *Establishing a sustainable and well managed decentralised system for in-service teacher education*
> 2. *Providing the necessary resources to schools and training headteachers and teachers in methods of resourcing and better management of schools*
> 3. *Ensuring that disadvantaged groups, girls, women, rural pupils from poor socio-metric backgrounds have equitable access to project facilities and education in general.'*

The needs as iterated by AIEMS

A nation wide provision of school based in-service for all primary and secondary teachers in the three core subjects English, mathematics and science. It is planned that this will be achieved through a decentralised system of resource centres in the Provinces and Districts and a cadre of trained trainers across the 9 Provinces, 61 districts and approximately 500 zones throughout Zambia using appropriate learning and training materials which will be developed by the Inspectorate and the Advisers. The specific objectives of the project are as follows:

> *'To strengthen and develop the existing provision in inservice education for teachers in the primary and secondary sector through the building of 14 Provincial Resource Centres and the rehabilitation of 61 District Resource Centres.'*

Additional preparation for the development of the AIEMS programme was collected from a Base Line Study published by the Inspectorate in the Ministry of Education in July 1994. This did not establish base line levels of achievement in maths, science or English. In fact it is remarkably quiet on the particular requirements for the improved teaching and learning of these subjects. It did however highlight the need for:

- Comprehensive supply of text books
- Short school based courses linked to upgrading
- Gender sensitivity
- Reflection by teachers on their own performance
- More resource teachers and trainers
- More resourceful teachers
- Increased skills in assessment, monitoring and evaluation
- Encouraging pupils to develop thinking skills and work independently

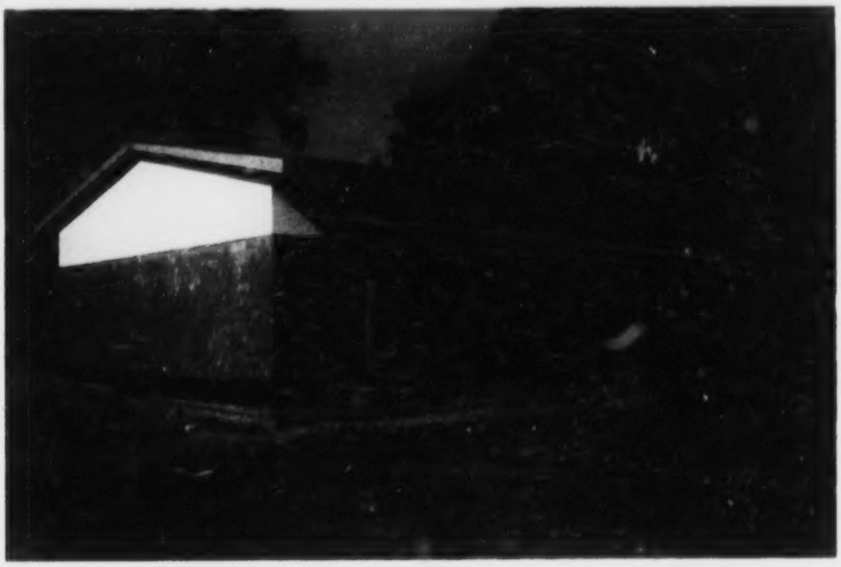
3.3 How AIEMS works at each level

The central idea that underlies the AIEMS approach is a Cascade model of INSET which flows down through 5 levels in the Primary System and 3 in the Secondary. The 5 stages in the "cascade" reflect the 5 levels in the Zambian educational system: National, Provincial, District, Zone, School.

At the **National Level** the Implementation Team for AIEMS is located in the Inspectorate in Lusaka, the capital of Zambia. This is made up of a Principal Inspector (INSET), Senior Inspector in Mathematics and Science, plus two UK advisers: in Science and in English. An adviser in Maths had left in 1996 and there is no Senior Inspector of English. This team is responsible for writing the Modules which have cascaded through the system.

Each of the sixteen **Provincial Resource Centres** is run by three co-ordinators, one for each of the major subjects on which the AIEMS programme focuses, Maths, English and Science. The coordinators were selected after the posts had been advertised and interviews held and all are experienced secondary teachers though not all are graduates. A high proportion are female.

Nearly all Provincial Resource Centres are purpose built to the same plan and supplied with the same equipment. The Centres are usually located in the grounds of a secondary school. In some large provinces - Copperbelt, Southern and Central Provinces - there are two Provincial Resource Centres.



The Kitwe Provincial Resource Centre is typical of the design built centre. It is well designed and built of attractive brick. The Resource Centre fits well physically into the school environment. The small windows keep the building cool, allow in enough light and help to prevent break-ins. The outside is decorated with two posters with a somewhat enigmatic message. Spaces in the building include a seminar room, materials store, offices, reprographics room, machine rooms, a library area, a kitchen and toilets.. Each centre has an office assistant who will be present when the coordinators are out in schools.

Kitwe Provincial Resource Centre has 158 Primary Schools in its provincial orbit and 23 Secondary Schools. The majority of schools are over 20 Km away.

The Kitwe Provincial Centre Catchment

Distance of Schools from TRC	*Primary*	*Secondary*
0 - 2 Km	*35*	*3*
2 - 5 Km	*3*	*5*
5 - 10 Km	*4*	*1*
10 - 15Km	*11*	*4*
15 - 20 Km	*9*	*1*
More than 20 Km	*86*	*11*

The furniture inside is flexible and solid. The walls decorated. This centre has a blackboard in a prominent position, some only had the inappropriate white board. Books are well catalogued but unused. Apparatus stands untouched on the shelf. Like all the other Provincial Centres this centre is well equipped with a photocopier, electric typewriter, duplicator, spiral binder, computer and printer, tape recorders, TV, camcorder and video recorder. Seminar rooms are furnished with tables and chairs, chalk board, and white board and flip chart easel. Provincial Resource Centres have four wheel drive vehicles and drivers.

AIEMS has also established **District Resource Centres** in each District in Zambia. These have a coordinator who is an experienced primary school teacher, a part time associate coordinator who is usually based at a nearby school and an office orderly.

District Resource Centres have often been adapted from existing buildings. Here in Choma the centre had previously been a Shape Resource Centre. It was located not in a school but next to the District Education Office. This has the advantage that teachers visiting to collect their pay and on other educational business may drop into the centre. It had the disadvantage of not being very close to classrooms and of the vehicle being more easily "borrowed" by senior education officials. The coordinator in this centre was very lively and had on her own initiative visited Lusaka to buy readers which she was taking out in sets to lend to schools.

In each district there are District Subject Trainers in the three key subjects. Each district may have 20 to 30 primary schools, 5 to 10 basic schools and 3 or 4 secondary schools, and some schools can be up to 60 kilometres distant from the centre.

Each district is divided into **Zones** made up of a group of from 4 to 7 schools which may be 10 to 15 kilometres apart. In each Zone there are a Zone INSET co-ordinator and 3 Zone subject trainers. The Zone INSET Co-ordinator has a bicycle. At **School Level** the pattern is again repeated with a senior teacher as INSET Coordinator and three teachers appointed to take on the role of resource teachers in the three key subjects. Each teacher is assigned to a teacher group. Workshops within the cascade model take place at each level with representatives being inducted into the course modules; until they reach the school where school based workshops are held to be followed up by teachers group meetings

3.4 The Cascade Model: What is being cascaded?

The materials developed for input into the "cascade" have been produced in the form of modules. These modules were generated by the Implementation Team with some input from Resource Centre Co-ordinators involved in the Pilot Phase, were piloted and then modified. Most modifications arising from the pilot phase were of a procedural nature intended to protect the modules from alteration during their trip down the cascade.

THE CASCADE MODEL

National Workshops
to
Provincial Workshops
to
District Workshops
to
Zonal Workshops
to
School Based Workshops

Earlier Modules (1, 2, and 3) were either related to secondary schools or to setting up and managing the Resource Centres. Module 4 is aimed at providing experience of different types of group activities for Teachers Groups. The Twelve Skills looks at common skills already in use in the classroom and seeks to develop them. Module 6, GEMS, is a more subject specific module. It has tasks and study activities for Teachers Groups to raise gender awareness. In addition it provides guidelines on activities in the three core subjects, English Maths and Science as taught in the primary school.

The Twelve Skills
Making and using Teaching Aids
Using Songs, Games and Rhymes
Encouraging Communication
Planning Lessons
Planning Group Work
Drawing
Planning the Chalkboard
Using the Local Environment
Testing for Teaching and Learning
Questioning for Teaching and Learning
Exploiting the Text books
Reflecting

4.0 What Is The AIEMS Approach To INSET

The AIEMS programme in Zambia embodies three contrasting and conflicting approaches to INSET - Cascade, Teachers Resource Centres and School-based Workshops together with Teachers' Groups.

In essence these three models are based on different and conflicting ideas about how Inset should be delivered, about where expertise lies and about the role the school can play. Each strategy to some extent undermines the other. In particular both the cascade model and the school based workshops could be developed and implemented without Resource Centres.

The Cascade Model
Centralised analysis of need and design of inputs
Uniformity throughout the system
Delivery down a ladder of workshops.

Teachers Resource Centres
Provide expertise at district level
Localise needs analysis and design of inset
Provide high level reprographic facilities, libraries and seminar space which teachers can use for meetings, for Inset and to design learning resources

School Based Workshops
School decisions on needs
Reliance on expertise within the school
Development of school based resources

4.1 What happens in the Cascade System?

Let us now look at the cascade model as a means of disseminating ideas. The cascade model, if it is to be effective in changing teaching and learning in the classroom, relies on the careful **development of relevant inputs** which can be implemented in the classroom and on the **effective replication of these strategies** down the cascade. Let us consider each of these two elements.

4.1.1 Effective replication

Within any cascade the effectiveness of replication depends on the extent to which the purpose and objectives of each step in the cascade are the same. Within AIEMS the top and middle levels of the cascade share the common purpose of preparing participants to conduct a similar workshop for the next level down. Here the evidence is that the carefully structured modules allow for a high level of replication. However in the final stages of the cascade the purpose changes. At the school level the purpose of the workshop is to instigate teachers groups which have a multiplicity of tasks depending on the modules. These teachers' groups, and the content or process which they are expected to implement have not been modeled in any of the previous steps in the cascade, and consequently there is much confusion at this stage. Again, the final stage of Teacher Group to classroom differs in almost every essential from the initial stage of the cascade process.

It is perhaps significant that in the diagrammatic representation of the cascade that appears in the AIEMS Module booklets the cascade stops at the school level. There is no representation of the School workshop > teacher group > classroom stages.

As we looked at the cascade system in action within AIEMS critical elements within the model became apparent, each restricting the scope and effectiveness of the replication of training. We have called these factors the Filter Factor, the Status Factor and the Time Factor.

4.1.2 The Filter Factor

The need for replication inhibits the flexibility of cascades. A cascade is limited by the minimum conditions present at any level. It is as though there is a filter at each level in the cascade and each filter has a different gauge. Only particles that will pass through the smallest gauge have a chance of reaching the bottom. Within AIEMS this has severely restricted the forms of modeling that can take place within the training. For example, neither video-clips of teachers in action nor demonstration classes with children have been incorporated in the cascade because video players are available only when the training takes place at Resource Centres, and children are only available when the training takes place in schools. The inflexibility of the cascade has militated against these methods being incorporated and encourages the one method which is possible at any level: discussion, and talk.

A group of teachers at a Zonal workshop have been introduced very ably to the importance of drawing (one of the Twelve Skills in Module 5). All have contributed significantly to the discussion. They spend 30 minutes producing their own drawings. These are presented to the group. None of the drawings relates to any topic the teacher will be teaching next week. No attempt is made to improve their skills in drawing though clearly some are much more competent than others

4.1.3 The Status Factor

The relationship and status of leaders and participants also effects and limits the nature of the transactions at different levels of the cascade. At the highest level of the cascade, working with experienced and articulate participants, there is a natural reluctance to engage in practical and active tasks that might threaten the status of the participants e.g. reveal their weakness in questioning, or their inability to draw. This leads to an emphasis on the theoretical nature of the educational issue or skill being cascaded. This emphasis is then built into the processes and modules being cascaded. This was a marked feature of the Zonal workshops which were observed. The awareness-raising aspects were competently managed and effective, but the skill development tasks and critical reflection on personal skills were absent. The status factor has, within AIEMS, encouraged an abstract approach to ideas and skills being cascaded.

This group of teachers is attending a Zonal Workshop which in 3 days will cover all the 12 skills which they will introduce to their schools over the next 4 terms.

4.1.4 The Time Factor

One of the critical conditions that varies within steps of the cascade is the time available. Both the time available for the workshops and the time available for application vary considerably between the zonal and school levels.

4.2 Creating relevant Inputs for the cascade

Perhaps the most important factor in determining the effectiveness of the cascade model is the quality of input at the top of the cascade. Cascades are very demanding. Once a cascade has been started it requires continuous feeding and it is extremely difficult to design continuous quality input which:

- Matches actual needs with practical responses which can be practised.
- Will cascade successfully producing the expected outcome in the classroom.
- Is based on credible models of existing good practice.
- Relate to the immediate needs of a teacher and support next weeks lessons.

From our observations of the cascade in action we have drawn limited, but we hope useful, conclusions about what works when designing materials for the cascade.

Cascading is supported:

- When the input and output are the same: for example : participants are undergoing a "workshop" which they themselves are to replicate;
- When there is an opportunity to develop skills needed at the next level: for example in zonal workshops where resource teachers model in outline the sessions they themselves would run.
- When the outcome is simple and clear and resonates with existing practice: for example, the idea of teachers groups is a familiar one in all schools.
- When the idea is simple and clear and can be demonstrated easily at each level of the cascade; Example; dividing the blackboard in separate spaces to organise work
- When the aim is to raise awareness in teachers about educational issues through discussion: for example the gender ideas within the GEMS modules.

To meet all these conditions is extremely demanding and is severely limited in Zambia (and for that matter in any country) by the lack of personnel equipped to design adequate inputs; personnel who have the necessary imagination, experience in the classroom, and awareness of the severe limitations of the cascade system as outlined earlier. Cascades once established are voracious animals demanding to be fed and it is extremely difficult to feed them well. In the case of AIEMS it has led to either the rather thin soup of general teaching principles repeating in essence the basic ideas of initial training or the indigestible particles of subject material.

The illusion of immense activity , "millions of INSET hours", can easily conceal the lack of really valid inputs leading to clear and effective changes in classroom practice.

5.0 What happens in the School Based Workshops and Teachers Groups

After an initial period of producing modules for the cascade AIEMS identified the need to establish school based workshops and teachers groups. These are to be the end point of the cascade ensuring that ideas are taken into schools. The establishment of School-Based

Workshops have been one of the clear successes of AIEMS. As a result of the AIEMS programme all schools visited have run one or more school-based workshops.

Examples of Topics Discussed leading to a school policy change
- *Equal access to all forms of sport for all children*
- *Equal duties and responsibilities regardless of sex*
- *No subject division based on sex.*

From our observations of schools and from discussions with those involved in the workshops we have deduced that school workshops based on specific issues were those most likely to have some effect on school policy. Evidence of policy changes were found when the workshop was based on themes such as gender. Here school policy decisions were being taken as a result of the workshop. Follow up of the schools involved will be needed to find if these policies have been implemented.

Secondly, classroom outcomes appear more likely after subject based and in particular text-based workshops.

The Resource Centre Coordinator in Livingstone has run workshops based around the Zambian English Course Books which introduces a new methodology. The workshop has a specific context and is related directly to lessons to be taught because it is based around a text which is to be used in schools.

Thirdly evidence was found in some schools of the production of resources, demonstration models, charts (as suggested in Modules 4 and 5)and of story books written by teachers and children as a result of the *Write a Book* workshops (not part of the modular AIEMS programme). However, questions need to be asked about the relevance of the materials produced and the effectiveness of their use in the classroom.

Overall in our visits we saw no clear evidence of improved classroom skills as a result of he workshops (but the opportunities for observation were limited. Resource teachers reported change in questioning in one school and of the use of methods suggested for dividing up the blackboard in another.

In one school charts that had been made were too small for class use, and were rolled up and placed in the school resource centre for future use. They were not related to immediate classroom use, were not on display, and had not been made use of by other teachers (or even by the teachers who had made them). In another school models made had been sent to the Resource Centre to be put in the "shop window" and not to be used. In another school some of the children's own stories, produced as part of the 'Write a Book' workshops had been sent to the Resource Centre. Here they had been revised and edited but were not being read by other children. They had been sent to Resource Centres. They were not in the box of class readers kept at the school.

5.1 The establishment of Teachers Groups

As the AIEMS programme has developed there has been a shift away from the simple cascade model resulting in workshops outside the school to a commitment to stimulating workshops in schools run by school resource teachers . Linked to the school based workshops has been the drive to establish Teachers Groups which will follow up the ideas introduced in the workshop. Module 4 has the specific aim of establishing groups and introducing teachers to a variety of means of working in groups.

We found clear evidence that AIEMS Teachers' Groups have been established in all schools. From the records kept by District Resource Co-ordinators there is evidence that the AIEMS groups have not only been formed but have met. Files had been kept on the meetings in Module 4 and Heads had timetables of meetings and lists of group members.

The concept of teacher groups is well established already within the Primary School System. Previous programmes such as SHAPE and Child to Child set up groups in schools. In one school visited the head reported proudly that he had 18 groups or committees in the school including SHAPE, Child to Child, Chongololo (wildlife), Preventive Maintenance, Discipline, Sanitation and Obituary (sic). The concept of having an AIEMS groups was thus easy for Heads and teachers to accept.

5.2 How are Teacher Groups being implemented?

Module 4 presents five "Types" of groups. In fact two of the five, EROTI and Action Research, are models of how the Teachers Groups can function. The other three describe topics to be investigated by groups (reading, cross curricular issues, learning resources). Both models for group action, EROTI and Action Research, are sophisticated and complicated. EROTI is one of those dangerous acronyms that hides its purpose which is for teachers to identify a skill to be developed in the classroom, to reflect on it, and then for a demonstration lesson to be held for members to observe and comment on. The evidence we collected suggests that some schools have implemented the Observation and Discussion part of the EROTI groups. In one school the co-ordinators had on their own initiative decided to hold a Whole School Workshop to explain and demonstrate EROTI as Teachers' groups had failed to understand the idea.

A resource teacher in one school we visited was very enthusiastic about the EROTI method of working. This was one of the methods detailed in Module 4 and intended as a model for Teachers Groups. She told us proudly how she was implementing the EROTI method in her classroom.

The relative success of the EROTI group meetings may be due to the fact that there as a step by step process to follow, that demonstration and observation are activities not far distant from those of teaching practice at college. >From our observations it would seem that the younger teachers were the ones prepared to teach in front of their peers. Perhaps older teachers had more to loose or the process was more familiar to the younger ones from their training. The relative failure of the topic group meetings suggests that they were not related to teachers needs.

Evidence of the use of Action Research was more difficult to find but two examples described by teachers were:

1. an investigation of school lateness leading to a staff decision to move registration 10 minutes before assembly rather than after.
2. an investigation of the first language "problem" in school and a staff decision to insist that all informal interactions between staff and students be conducted in English.

No other examples of outcomes from group topics were found.

Three factors why Teachers Groups have had difficulties in implementing the models advocated in Module 4

- *The lack of clarity and confusion within the module itself about the nature and role of the groups and the decision to attempt a multiplicity of models,*
- *The lack of any clear modeling of the groups at any stage in the cascade,*
- *The ideas behind the groups did not arise out of "good practice" in Zambian Primary schools but were the adaptation by the implementation team of ideas from other systems.*

5.3 Problems with running Teacher Groups

As a result of Module 4 all schools we visited had run teachers groups. Some INSET co-ordinators we talked to were keeping very elaborate files with teachers each completing teacher 'Group Forms' and these being filed (this was partly related to the initial plans for the accreditation of AIEMS activities by the University of Zambia, an idea that has not been realised).

Many involved in the programme are aware that teachers' groups are proving fragile and there is evidence from our interviews with teachers that:

- Teachers' Groups are not taking place as frequently as planned for in the modules
- Some schools have simplified the procedure by having school-based workshops and no teachers groups.
- Groups meet for a very short time.

The following factors contribute to the decline in the regularity of Teachers Group Meetings:

- *It is difficult to find a time to meet.*
- *They take up time of teachers already loaded with two or more teaching sessions.*
- *Teachers do not see them as relevant to their immediate teaching needs.*
- *The original accreditation system has not been put in place.*
- *The membership of the groups are random.*
- *The groups as elaborated in Module 4 are complicated.*

5.4 Possible ways to encourage teacher's support for Teachers Groups

The potential problems with Teacher Groups are becoming more critical as teachers move into Modules 5 and 6 which place much emphasis on the role of the Teachers Group and expect a meeting almost once a week. This will not be practical unless new ways of making the groups viable are found.

Some suggestions for facilitating Teachers Group Meetings

- *Finding a convenient time by basing teachers groups on sessions taught i.e. drawn from all the morning session teachers.*
- *Time-tabling the Teachers' Groups in teaching time (and increasing children's time off task?)*
- *Making them strictly voluntary*
- *Providing an incentive in the form of credits towards a qualification that can be collected for preparing and running a group session, presenting a lesson on a particular topic for others to watch (preparing a test, exercise or activity that can be used by all the teachers of grade*
- *Basing the groups on interest groups e.g. Maths Science English.*
- *Basing them on Grade or level groups e.g. Teachers of grade 1.2 Teachers of grade.*
- *Basing the activities for the groups around normal tasks that can be made* ***easier*** *by meeting in groups: Lesson scheming, test writing, marking etc*

5.4 Time lost through inservice workshops

Teacher absence from the classroom is disturbingly common in Zambian Schools. In over 20% of the primary schools visited little or no teaching was going on; teachers were attending funerals or meetings or 'on leave'.

AIEMS proclaims on its files that "One million training hours will ensure four thousand school-based INSET years".

This means that for each inset training hour during school time 40 children are without a teacher for an hour. One million training hours will ensure 40 million pupil hours lost.

All INSET programmes need to confront the issue of time lost in the classroom. The AIEMS programme is no exception. In fact it involves more teachers hours out of the class than most other INSET programmes, in both school-based workshops and teacher groups. As one primary teacher commented "Too many seminars and workshops disrupt class teaching". In the worst example of time lost to Teachers Groups we found that a teachers group scheduled from 9.30 to 10.30 meant in fact that the teachers did not return to classes even when the Teachers' Group had finished and classes were untaught from 9.30 to 12.00.

6.0 How Are Teacher Resource Centres Used?

As part of the information collected for this case study co-ordinators in a sample of ten Resource Centres were asked to keep records of the teachers who visited the centre during the month of January 1998. Co-ordinators were also asked if January was a normal month representing a fair picture of their centres. Two replied that as January was the start of the year figures were lower than normal. To compensate for this in the calculations that follow we doubled the figures for January.

Consolidated Data from 10 Resource Centres over 1 month	
Number of Visits by Teachers	*295*
For a meeting	*110*
To use the library	*77*
To use the computer	*24*
To use the photocopier	*53*
To use the video	*6*
To use the duplicating machine	*5*
To consult centre staff	*50*

On average in each centre

- *teachers per day visit the centre*
- *teachers per week come for meetings*
- *teacher every two days comes to use the library*
- *teacher every 4 days comes to use reprographic facilities for professional use*
- *teacher every 3 days comes to consult centre staff*

Use of the Resource Centres for workshops and teachers' meetings amounts to about 10% of the time available. (The 1993 project document called for a 90% utilisation rate by 1998). In the Livingstone District, which has both a DRC and a PRC, the teacher visits to centres in the month represent about 6% of the total teaching force. From our interviews with teachers in a Phase 1 area, the percentage who have made any visit to use the Centres facilities was 15%.

6.1 The effect of distance on use

Distance traveled by visitors to the TRSs	
0 – 1 km	*27%*
1 – 5 km	*33%*
5 – 10 km	*8%*
10- 15 km	*6%*
15– 20 km	*2%*
20+ km	*24%*

The data indicates that the distance teachers have to travel in order to reach the Resource Centre is an important factor influencing frequency of visits. There is a sharp decline in the number of teachers prepared to travel more than 5km.

The table also indicates that visits by teachers in schools right next to Resource Centres are not high. The figure of 27% represents 70 teachers, a visit rate of about 2 teachers per centre per week from the "base" school. The data also indicates that some teachers are prepared to travel long distance to visit the centre, distances which may be as much as 80km.

6.2 What do teachers make in the resource centres?

There is no evidence to indicate that teachers are using the centres to make teaching aids and there is very little evidence that teachers are using the centres in any significant way for the creation of teaching and learning materials for children's use. The number of teachers creating classroom materials represents one teacher per centre per month. Much of the photocopying which is done for school use is to replicate administrative forms and documents. Very little use is made of the duplicating facilities available (some schools have there own duplicators). Almost half the teachers using the photocopier use it for private use. There is no evidence that these teachers who visit the Centres to use the photocopier for private use then take advantage of the centre for professional use.

We found only a few isolated examples of teachers who are using the RC to create learning materials:

- A group of Grade 7 teachers preparing a mock Grade 7 exam
- A senior secondary teacher preparing revision notes for Class 12
- A primary teacher preparing materials for private tuition classes

This secondary teacher has traveled over 40km to prepare revision notes for his class in Agricultural Science. He is not passing them on to other teachers as he hopes to publish them in the near future.

For this small group the Resource Centres provide an important stimulus and it is difficult to estimate heir value within the whole system. It is to teachers like these that Zambia needs to look in the future for new curriculum ideas and textbooks.

6.3 Pupil use of the resource centres

There is considerable variation in the use of centres by pupils, but there is no evidence that teachers are using centres systematically with their pupils.

At one Provincial Resource Centre we were told "This is a ***teachers*** *Centre. It is not for children". At others we found children who regularly used the centre for private study, to study past exam papers and to do their homework. Most pupils using Centres came from examination classes.*

Use of Resource Centres by Pupils (10 centres in a 1 month period)

Total number of Students	Read	Homework	Other
282	206 73%	68 24%	42 Photocopying, tuition

The highest use by pupils was 67 visits in the month. Students working in one provincial centre came regularly for 2 hours a day to study (the school library was closed). This indicates the huge potential Resource Centres have for serving student needs.

7.0 How Much Does All This Cost?

The AIEMS project is funded initially by a £12 million grant from UK Aid, administered by the British Council. The plan is for the Government of Zambia to take over the funding of the Resource Centres and it has agreed to a monthly grant to Provincial Resource Centres of K800,000. This is an important commitment and demonstrates considerable Government support for the programme. Included too as a Government contribution are the salaries for all teachers who are seconded to work full time in Resource Centres. However, programmes are at present being delayed as the payments are 6 months behind schedule.

The Monthly Balance Sheet for a Provincial Resource Centre

Expenses	
Stationery	*K20,000*
Allowances	*K80,000*
Repairs	*K50,000*
Transport	*K15,000*
Fuel	*K200,000*
Telephone	*K332,000*
Workshop Costs	*K1,000,000*
Income	
Photocopying	*K33000*
Hire of Centre	*K200,000*
Selling food	*K200,000*
Telephone	*K40.000*
Subscriptions	*K25,000*

7.1 Income generation

The training of Centre Coordinators stressed the importance of covering costs by raising funds. Centres charge for schools and individuals to become members of the centre. Photocopies are K150-300 each with a discount for members. For some centres this initially was a major source of income. However, the example has stimulated local business men to follow suit and set up their own copying business and income has dropped dramatically (though many clients favour the Resource Centres as they provide a better service). Food is prepared and sold mainly to school children using the RC kitchen. Some income also comes from use of the computer and videos.

Some centres (Mpika, Monze) have used the income they have generated to buy deep freezers, and one (Choma DRC) to buy children's books.

7.2 Cost of workshops

The AIEMS workshops are costed at K23,000 per person per day. Participants are provided with transport, accommodation and food plus K3000 'out of pocket' allowance. This is for all workshops down to Zonal level. There is no funding of school-based workshops except for a starter grant of K30,000 for stationery. As a guideline to educational costs in Zambia; a pen costs about K150, an exercise book about K200, a pupil's maths book about 4500.

8.0 So, What Conclusions Have We Come To About Resource Centres?

Nearly all teachers we talked to had a positive attitude towards the Resource Centres and the AIEMS programme. For a small number of teachers they were providing a much needed spur and stimulus to their teaching, and even those who had never visited them felt they must be a good thing, helping teachers "to make teaching aids". This "Sunshine Effect" cannot wholly be ignored. Focusing large amounts of money, resources and energy on activities that support teachers and show that they are valued does help to improve morale and provides for a general feeling of improved status.

8.1 The role of Resource Centres in the AIEMS INSET programme

TRCs play a very limited role as training venues for the Cascade Model because they are too small and do not offer accommodation. The Zonal Workshops which we observed were at other centres, schools or institutions. In nearly all cases, School-Based Workshops and Teacher Groups meet in their school buildings, and TRCs play no role in these. The 'use rate' optimistically predicted in the project document of 90% use by 1998 has no where near been realised. The present 'use rate' for training is less than 15%. We conclude that ***as training centres Teacher Resource Centres are not essential to the Cascade/School based strategy adopted by AIEMS.***

The resources and facilities available at TRCs are only marginally instrumental to the cascade and school-based workshops. Some materials are provided to school-based workshops in the inevitable form of chart paper and pens. Occasionally extra copies of the module manuals are made at the TRC. We conclude that ***the facilities and resources***

available at Teacher Resource Centres are not integrated into the AIEMS programme as developed in the modules and school based workshops.

The initial role of the Resource Centre as the focus for the delivery of INSET has been modified as the AIEMS programme has developed. The focus has shifted away from the Resource Centre to the school; to the school-based workshop and the teacher groups.

The modules and workshops so far developed, based as they are on developing teachers groups and school-based workshops, are not aimed at stimulating the use of the facilities available at Resource Centres by teachers. The underlying philosophy of the school-based approach to INSET is in conflict with the idea of District Resource Centres stressing the importance of the school to act as a self sufficient institution and to look to itself and its own resources for its development. **District Resource Centres and school-based workshops reflect different and conflicting strategies for INSET**.

The cascade approach to INSET encourages a dependency on centralised initiatives and a top-down approach which both reinforces a telling/talking approach to INSET and marginalises initiatives at Resource Centre level. Funding policies which subsidise cascade training also establish levels of expectation among participants in terms of per diems/travel allowances which will be hard to sustain. ***The cascade model of INSET impedes the development of resource centre initiatives in providing localised INSET.***

8.2 Resource Centres as centres of resources

The Resource Centres at present provide no significant contribution to improved resources in the classroom. The concept of centres as "showcases" of resources has meant that there is more emphasis on collecting teaching aids and models from schools than in disseminating them to schools. ***Resource centres make no significant contribution to improved resources in the classroom.***

One teacher remarked that "we do not have a reading culture". The evidence on teacher use reveals that teachers are visiting the centres in small numbers to read, study and in some cases borrow books. Text-books and teachers guides remain the core book resources that teachers use. Selecting books for centres that will effectively supplement Zambian texts is extremely hard. Most UK primary texts are totally unsuitable. Pupils are also beginning to use the centres both as a study area and as a library. ***Books remain the central educational resource.***

8.3 Resource Centres as centres stimulating the creation of learning materials

A culture does not exist among primary teachers in Zambia of creating classroom learning materials other than on the blackboard. This is realistic given class sizes and the cost in both time and money of creating worksheets, work-cards, etc. Only a tiny minority of teachers are using centres to develop their own learning materials. It is, of course, vital for the development of the primary system in Zambia that these creative and exceptional teachers are recognised and supported. Our experience suggests that these teachers are either teaching senior exam classes or private classes. ***Resource Centres provide support for a tiny minority of teachers to create classroom materials.***

Resource Centre location has an important influence on use. Two factors that appear to effect use are:

1. Proximity to District Headquarters, Ministry of Education and commercial centres. It was reported that most visits are made when teachers come to collect their salaries.
2. Type of school in which the centre is located; there is not enough data from our survey to compare the performance of centres situated in primary, basic and secondary schools but from our own observations the least used District Resource Centre was located in a secondary school.

Distance and transport problems and costs mean that for the vast majority of teachers Resource Centres are inaccessible. However, even when Resource Centres are right on their doorsteps teachers make little use of the facilities. ***The range of the Resource Centre as a 'drop in' centre is 5Km***

8.4 Resource Centre Co-ordinators

The TRC personnel play a key role in the Cascade system as facilitators, trainers and monitors - but not as initiators, moderators or adapters of the process. The bulk of their time is spent as trainers of the received modules within the cascade and passive monitors of the process at school workshop level. ***The TRC coordinators are fully integrated into the Cascade model and are effective and efficient managers of the system. However, they play little active role in the school workshops or in teachers groups.*** (An exception to this is the revised role that co-ordinators have been given in the secondary cascade where they are now taking responsibility for initiating school based workshops)

8.5 Teachers attitudes to Resource Centres

Nearly all teachers interviewed were very positive about the presence of Resource Centres and thought they were valuable, but a majority had not used them. This has puzzled us and we can only suppose this can be put down to the following possible reasons:

- Any initiative that recognises teachers needs and is dedicated to teacher enrichment helps to raise the self esteem of the profession.
- Zambians are polite and gracious

- Donor driven programmes and centralised initiatives have been the norm for so long that "dependency" has lead to uncritical acceptance.
- Teacher training has always emphasised that teaching should be more "teaching- aid" based. When asked what they thought they might use the Teacher Resource Centres for many teachers suggested the making of teaching aids. Resource Centres fit into the idea of what "teaching should be like".

Resource Centres and AIEMS have been very positively received by primary teachers, but there is a lack of constructive criticism (reflection and suggestion) on the role of Resource Centres.

9.0 How Sustainable Are Resource Centres and How Is The AIEMS Approach?

9.1 Sustaining the programme i.e. the Cascade, Teacher Resource Centres, School Based Workshops and Teachers Groups

The two major factors undermining sustainability of the cascade are the ability to provide quality cascade-proof inputs and the high cost of financing a pyramid of workshops. MoE Zambia does not have the ability to sustain either of these without donor support.

Possible support from other donor funded programmes will keep some parts alive. PAGE the programme to advance Girls Education has already supplied an input into the Modular Programme which is incorporated in the GEMS module. The British support programme to establish a first language literacy programme is exploiting the system set up at zonal level and may be able to use some Resource Centre facilities. The Danish supported Preservice Teacher Education Programme is going to incorporate Resource Centres in supporting the training which aims to reduce the residential course to 1 year with a year placement in schools.

So some elements will be sustained through the support provided by future donor aided programmes. These are likely to be the organisational structures of delivery with an increased emphasis on the role of the zonal group as an effective unit and the physical structure of the Resource Centres. To what extent the skills which AIEMS and Resource Centres have tried to develop will be built upon is much more open to question. For example, the effective use of the Resource Centre as a focus for trainee teachers in school placements remains highly doubtful. This would require trainee teachers to be posted to schools clustering around Resource Centres; it means developing in Resource Centre Co-ordinators skills of mentoring, course preparation and course delivery, all of which are new; and it will mean co-ordinating the role of the centres with the Preservice colleges.

9.2 Sustaining the organisational structure established, i.e. jobs of national to zonal co-ordinators

The costs of all posts except those of consultants is at present met by the Ministry of Education in Zambia. In this sense the structure is sustainable. Two caveats here. The role of Resource Centre Co-ordinators will be severely constrained if and when transport becomes unavailable (through loss of control to senior education officers, increasing mechanical failure , maintenance and fuel costs).

One very able Resource Centre Co-ordinator we met had made no visits to schools in the last 2 months. Her vehicle had been appropriated by the local inspector.

Secondly the programme as it exists is identified as a national programme and increasing moves to decentralise the financing and control of the school system will marginalise all central programmes.

The Principal Education Officer in Southern Province has many ideas for developing Primary Education in her province. One scheme is to develop the role of specialist teachers in key subjects. This plan does not include using the existing Resource Teachers established by the nation-wide AIEMS programme.

9.3 Sustaining the facilities

The major investment in physical structure has been the Resource Centres and in the resources they contain. The most heavily used resources will be the first to suffer. Photocopiers are heavily used and maintenance charges are high. If realistic rates are to be charged which cover maintenance AND replacement then most Centres will have to increase their charges.

In the section below on the 'Future Use of Resource Centres' detailed suggestion for their continuing use have been made and these have been based on two criteria; how are they being used at present and which uses are low cost and use existing resources. To ask the severest question; what role can Resource Centres have when there is no fuel for the vehicle, no ink for the duplicator and no electricity? Some Resource Centres already have experience of these conditions and still play an important but limited role as quiet places for pupils to study.

9.4 Sustaining the ideas

One key idea that lies behind the way the AIEMS programme has developed and behind the initial vision for Teachers Centres and in particular the development of teachers groups is that of developing teachers' capacity to be reflective, to identify and solve their own problems. However much we may approve of this idea in theory, and it does underlie an enormous amount of the present writings on teacher development, we seriously need to consider its effectiveness in the reality of the Zambian school and classroom. We also need to consider the effectiveness of the strategies used to bring it about. Do the strategies provide a context and structure in which each of these elements can be developed. In Zambia these have been threefold; provision of Resource Centres, the development of a cascade system, and the setting up of a school based system. Here is an attempt to make a simplified analysis :

	Opportunities for Reflection	Opportunities for Identification of Problems	Opportunities for Application
Cascade	Opportunity for discussion, awareness raising within a tight timescale.	Problems already identified at the top and passed down	No opportunity to apply in the classroom until the bottom of the cascade.
Teachers Groups	Opportunity for discussion. Strong time constraints	Some opportunity to identify problems specifically those in demonstration lessons and at policy level. Subject based modules deal with pre-ordained topics	Decisions on school policy (language use, equal opportunities) Some teachers through taking lessons which are observed.
Resource Centres	Minimal But some opportunities for teachers to read and meet.	Minimal Reinforces the idea that resources are the main problem and that teaching aids are the solution	For a few talented, highly motivated teachers who use Resource Centres to create learning materials.

This analysis suggests that the ability to develop reflection, problem identification and application in the classroom is minimal in all strategies, with Resource Centres at the bottom. However, looking at skills developed more generally within the AIEMS structure we found evidence in our discussions and observation of leaders within the system that they had benefited individually from the opportunities provided. For example, we can identify Resource Centre Co-ordinators who had ideas about programmes they could run related to specific needs and in some cases had run their own workshops. We found Zonal Co-ordinators who showed improved skills in running participatory workshops with other teachers. There were some School Resource Teachers who had been given increased responsibility in organising workshops and had used their own initiative to structure them in the their own way.

From this we conclude that those given a role to play within the system have benefited from it. **The ability to spread this involvement widely and to school level is one of the most successful outcomes of the AIEMS programme.** As the Cascade model leading to teachers workshops involves a large number of teachers in the process of running workshops it is the most effective strategy at developing skills related to this task. To a degree this task does involve teachers in thinking about their own teaching especially when they have to demonstrate lessons to others.

But is this sustainable; will these skills and talents be built upon? The fragility of the Teacher Groups has been discussed in detail. The demonstration lesson as a basis for continuing school based workshops is cheap and replicable but how often are teachers prepared to put themselves on show? What are the incentives to continue?

AIEMS has established a series of incentives based on status and limited financial reward. It has significantly failed, however, to establish sustainable incentives based on improved qualifications. Also, the sustainability of financial and status incentives will always be at risk in any programme which is both donor funded and time limited.

One vital element that ensures a degree of continuity of the ideas in any inservice programme is "the book". The AIEMS programme from its inception had been concerned about increased text book supply (mainly at the secondary level) and planned to introduce a revolving fund system to increase and maintain the supply of texts. This was abandoned early on within the programme.
The subject elements within the primary programme aim to hit a few trouble spots spread over the whole primary curriculum. Sustainability would have been greatly increased if the teachers had materials which support their every day to day teaching in the way that they teach.

Our personal opinion for how to improve sustainability is **to provide teacher texts and pupils books.** A major weakness in the Zambian classroom, for example, is the lack of material to help teachers develop mental mathematics. A continuing impact can be made by focusing on this element, developing step by step teachers guides and pupils exercises for classroom use.

10.0 Future uses for the Resource Centres

The figures from our research suggest that Resource Centres are at present underused. They will need to find alternative roles which make them a vital part of the educational system, if they are to survive in the future. In our discussions with the Ministry of Education, teachers, co-ordinators and from our own observations the following suggestions have arisen. They are based on a different conception of the role of Resource Centres; one based on our observations and belief that there is a need:

- To build on examples of existing good practice in Zambian Schools
- To change centres from Museums of unused teaching aids into bases in which coordinators can work with teachers to improve the supply of basic teaching resources in schools.

- To have a realistic view of the limitations that centres can play in training both due to costs and lack of expertise in training.

10.1 Resource Centres as support centres for the work of the school in which they are located (the base school).

Although visits to the Resource Centres by teachers working in the 'base school' are higher than for other schools they are still very low. The Resource Centres are independent of their base schools, although several head teachers felt initially that they would be *theirs* and the quality of the relationships between school and centre management vary from the very positive to the distinctly hostile, clouded by professional jealousy. As a minimum, Resource Centres can become classrooms in schools that are short of teaching rooms, i.e. become teaching space for at least one session a day.

Suggestions for the role the Resource Centre can play in the school

- *Establishing the centre as the school staff-room and encouraging staff to use it in both a formal and informal way, as a space for staff to mark books, to read newspapers and magazines or even to have a cup of tea.*
- *INSET co-ordinators at the base school being assistant RC co-ordinators. This is already the case with some centres.*
- *Establishing the base school as a "model" or "touchstone school".*
- *Having regular classes from the base school time-tabled in the Centre.*
- *Developing the Centre as the School Library, as a place where pupils can borrow books, as a study centre for students where they can do their homework, or read newspapers and magazines.*
- *Developing the Resource Centre as the resource room for the school with texts stored and borrowed from centre. Examples already exist in certain schools which can serve as a model.*
- *Co-ordinators taking some teaching responsibilities in the base schools. Schools are short of capable and able teachers and, yet over one hundred able teachers have been taken out of the classroom to become co-ordinators. Co-ordinators by teaching in schools in a limited way would be both providing support for the base school, keeping themselves in touch with classroom realities and able to develop teaching ideas, methods and skills. Furthermore, co-ordinators could invite other teachers to observe their lessons and use their classes as the basis for demonstration and to generate discussion of teaching techniques and materials.*

10.2 Resource Centres as centres of textbook and school supplies.

The principle resources used by teachers are textbooks, teacher's guides, and blackboards. The principle resources used by pupils are pupil texts, readers, pens, pencils and exercise books. The top priority for Resource Centres is increasing and extending the provision of resources with which teachers are familiar and developing with teachers more effective ways of using a limited number of books.

Resource Centres should have on display all the textbooks and readers now published and approved so teachers can make choices about which to buy. Choice over which books are used in the classroom is gradually being devolved. Decisions on which books to buy are now being taken by staff e.g. At Lusaka Boys School those teaching Grade 2 decided to change to the Macmillan Series. Teachers need to be able to see all the texts available so they can make informed choices.

10.3 Resource Centres act as bookshops selling textbooks approved by the Ministry but published by independent publishers.

Over recent years there has been a growing change in the practice and policy for the production of curriculum material with an increasing role being played by the private sector. The Curriculum Development Centre (CDC) no longer has a monopoly in the creation of classroom materials. It is now recognised that CDC has failed in this respect and CDC is now only responsible for syllabus development and material evaluation. The role of production of materials is now largely in the hands of commercial publishers..

However, the Resource Centres could play a vital link role in spreading the opportunity for book buying throughout the whole of Zambia. The sales manager of one leading publisher in Lusaka (Macmillan, Zambia) when interviewed spoke of his interest in using the Resource Centres as outlets and allowing them a 25% price share.

One way that the Resource Centres have begun to act as book suppliers is through the renting of dictionaries to schools. Boxes containing 35 dictionaries have been taken to schools by co-ordinators and schools are paying K5,000 per term for the books whose use is managed by the school itself. Early indications are that this scheme is working well and provides a potential strategy for book supply on a much wider scale.

10.4 Resource Centres act as centres for the supply of school stationary supplies

If the Centres are to be commercial centres, as they certainly are with their photocopiers, then a high priority must be given to the supply of educationally useful materials. The Centres that have used their profits to buy deep freezes need to be encouraged to look at more educationally valuable enterprises.

In one centre which was visited during this study the co-ordinator was running a very successful (private) business in the supply of exercise books, pens, pencils etc. to schools, parents and pupils. A stock had been established with an initial loan and supplies are sold both at the centre and delivered on bicycle. Other Centres might follow this model but integrate it into the professional services offered by the Centre.

One Resource Centre co-ordinator has suggested that responsibility for the supply of resources in the district schools could be given directly to Resource Centre co-ordinators. Co-ordinators working with zonal and school resource teachers would identify the areas of greatest need and seek to alleviate them through the following strategies:

- Copies of texts in short supply held in class sets at Resource Centres for rotation among schools, or
- Teachers in a particular school create copies of materials in short supply by using the Centre scanner and duplicator.

- Making texts go further by breaking them into chapter sections and copying in pamphlet form.
- Introducing into schools the lost art of tracing so that pupil's workbooks e.g. those in the ZEBEC course, are used. At present these are not being used as teachers are reluctant to allow children to draw on them. Instead children are asked to copy the whole page (a quite unsuitable activity).

Even when books do reach schools they were often found in unopened boxes in the Heads office. The reluctance on the part of Heads to use the books stems in part from the recent emphasis on their role as good managers of materials and the stress that has been laid on the fact that each book should last for 3 years. This has meant that some Heads have decided that it is either better to keep them safe in their boxes or distribute only one third of the books.

10.5 Resource Centres as creators/publishers of learning materials

A few but significant examples exist of teachers creating learning materials using the facilities of the Resource Centres.

Examples of materials produced with some support from Resource Centres

- *Typed copy of children's story*
- *Mock examination papers*
- *Reports of twinning experiments in school and "The Democratic Classroom"*
- *Log tables and maths problems*

The potential of these for wider circulation is not being realised. As a top priority Centres can celebrate, duplicate and circulate teacher produced materials both among centres and within their own schools: for example, scanning and duplicating and selling copies of the stories written in the *Write a Book* scheme at present lying unused in the centres. The production of localised curriculum material is one of the justifications for Resource Centres emerging from the Tanzania Conference. No evidence was found of this in the Centres in Zambia.

With the coming of the First Language Literacy programme "Breakthrough to Literacy" there is now a perfect opportunity for Centres to play a leading role in stimulating the writing of reading materials in the language of their area.

10.6 The Resource Centre as a mobile resource bank of books and resources which are taken out to schools.

The example, mentioned above, of the District Resource Centre Co-ordinator in Choma shows the pro-active role that co-ordinators can take in using their vehicle and their discretionary funds in a creative way. The success of that example stems form a partnership of co-ordinators with teachers in identifying classroom needs and taking to schools the resources requested. This could be extended so that the co-ordinator facilitates the supply, rotation and sharing of limited resources.

10.7 The Resource Centre as study centres for teachers

Inservice of the form that AIEMS has provided is expensive. It has also attempted to provide courses for ALL teachers and to cope with universal needs. This has lead to a lack of focus and, by implication, effectiveness. An alternative strategy is to identify groups with specific needs. Within Zambia this includes untrained teachers, trainee teachers on school placement year, teachers studying for further qualifications, and even more specifically class 2 teachers of mathematics who have no teachers guide or pupils book to follow. It also includes Class 6 teachers who have just received the new science text and want to learn how to use it.

Mazabuka District has set up its own course for untrained teachers. The course is run by practising teachers

CHAPTER EIGHT

Findings and Comment

1.0 Overview

It is significant and highly laudable that education development projects have as their prime objective for Teacher Resource Centres that they should be used to improve the classroom performance of teachers and hence have a positive impact on teaching and learning. However, all our findings point to just how difficult it is for TRCs to achieve these goals.

The major problem with TRC strategy is that it is not designed to work inside schools. TRCs are detached from schools. This is particularly the case with purpose built structures, but it is true even when they compose a classroom in a school Teachers leave their classes to come to TRCs, most commonly to participate in in-service courses. The work they do at the TRC often becomes simply something that one does on the course: not something to translate into action with pupils. This happens particularly in up-grading, certificate courses where the content is often highly theoretical. It also happens on shorter, in-service courses associated with cascade programmes where new curricula, equipment and pedagogical skills are introduced. There seems to be little concern, by either trainers or teachers, to address how the ideas being presented and materials being made might be implemented in schools and classrooms. Curriculum planning, for instance, is rarely considered in a time frame longer than one lesson.

We often found, for example, that teaching aids made by teachers on courses were left at the centre, for display. If in schools (rarely seen) they were gathering dust in staff rooms; whereas in classrooms (very rarely seen) they were hung so high that children could not work with them. Such skills as higher order questioning and grouping children, making number lines and doing science investigations may be introduced and even practiced at centres, but time is rarely given to planning where and how to put them into next week's, and next month's lessons at school.

It is clear that the vast majority of teachers need help and support in planning and trying out new ideas in their own classrooms. This is the case with older, experienced teachers and with new, virtually untrained teachers. Indeed, we all need such intimate mentoring in our work place when we are called upon to significantly change our behaviour, as courses and activities at TRCs almost always prompt us to do.

It is clear to policy makers and educational planners as well. Plans for follow-up from TRCs to schools, usually by TRC staff are included in centre programme designs. Some projects even provide bicycles and motor cycles for tutors' use. But, in almost all cases, follow-up to schools and classrooms just does not happen. The task is too big. There are too many schools in the cluster served by the TRC, and many of them are just too far away. There are too many teachers with too many different subjects and grade levels to deal with. The human resource necessary to provide adequate support to schools through TRCs is never sufficient. Resources never match project expectations for adequate support in schools.

This is our chief concern about the effectiveness of TRC strategy; that the detachment of TRCs from work at schools makes it very difficult for them to have an impact directly on teaching and learning. The discussion that follows is intended to develop this basic concern. It considers our findings in detail and attempts to offer plausible explanations for why things are as they are. The points we make hold generally, although there are exceptions which have been described in detail in appropriate places in the study.

Before moving to these issues, however, we must comment on the utilization rate of the TRCs in our case studies. A most disturbing fact is that the TRCs in our study, across the board, are used very little. In Zambia, our figures show that the utilization of Resource Centres for workshops and teachers' meetings amount to about 10% of available time. The project planning document written in 1993 called for a 90% utilization rate by 1998. In Nepal, the 150 and 180 hour BPEP courses that used to be conducted at primary Resource Centres are now being moved to Teacher Training Centres. Resource Centres remain with only the 3 to 4 day textbook orientation courses and a few committee meetings. Even in the SIP project in Mombasa, the TACs hold only 3 or 4 workshop days per term. The project planning document for the Malawi School Support Systems Project 1996-2001, written in December 1995, set an 80% utilization rate. Based on our findings, we can not imagine that this figure will be achieved.

2.0 Teacher resource centres as centres for resource access and development

Almost all TRCs deal with the dissemination of teaching and learning materials to schools. Some distribute materials from central stores; some encourage teachers to develop their own; and some do both. Findings from our case studies suggest that TRCs are not very good at handling resources for schools. One exception to this is where TRCs are involved in the distribution of pupils' textbooks and teacher's guides accompanied by relevant orientation courses for teachers. Another exception is the class reader loan scheme operated through secondary TRCs in Kenya.

Resources from central stores can be distributed by any local body, the district education office, for instance. The unique contribution that TRCs can make is offering training courses in the use of these materials. The most successful of these, which we saw at primary Resource Centres in Nepal, are those which involve the distribution of new textbooks and accompanying teachers' guides. Teachers specific to the class level of the new textbooks come to the TRC for a 3-4 day textbook 'orientation' course when they pick up their new books. These are very popular courses with teachers. They say, 'This is what we now *have to* teach. The course is good because it tells us how to use the books and the teacher's guide.'

Nepali secondary science teachers, by contrast, are given a 3 day 'familiarization' course on the new science equipment their school is supposed to receive. Unpacking and making an inventory of the bits and pieces and manipulating some of the apparatus to see how it works is all that is done at the course. Where and how to incorporate this equipment and material into the syllabus, at what class level, for what specific purpose and how to use them in lessons is not considered, as many science teachers complained.

However, what is most important to note, here, is **not** the quality of the course that accompanies the distribution of resources to schools. Rather, it is the nature of the resource itself that should be considered. Textbooks and teacher guides carry with them individual lesson plans and a sequence of work. With science equipment, and any such teaching and learning aids, whether produced centrally or by local teachers, all the planning is left to the teacher along with all the curricular decisions to make. Consequently, in Nepal at least, new science equipment most frequently sits in locked cupboards gathering dust and rust. The same can be said for globes, charts and models. Instruction manuals on the use of teaching and learning aids may be supplied, but these are not nearly as likely to stimulate teachers to use them as injecting relevant information at relevant points in student textbooks and teacher guides. Courses to accompany new materials, the unique contribution that TRCs can offer the distribution of resources, can be helpful in targeting specifically difficult topics and for encouraging their use as intended.

TRCs are frequently heralded as places where teachers can come to make teaching and learning aids. Thus, centres are commonly equipped with type writers and duplicators, tools, card, chart paper and so on. Some even have computers, or plan to have them. What we found is that only a tiny minority of teachers use TRCs for the creation of teaching and learning aids. There are a few teaching aids being produced on courses - charts, models, diagrams. But, as mentioned above, such materials rarely get to the classrooms, and it is even more rare for them to be used by children. Many TRCs are decorated with teaching aids made by teachers, who have not produced duplicate copies for their own schools. In the APPEP programme, for instance, the teaching aids produced in workshops, together with children's work, is commonly put on display in a space not frequented by children. In Zambia, many of the stories written by children and teachers in the 'Write a Book' scheme are presently lying unused in the resource centres.

Very, very few *learning aids* (as distinct from teaching aids) are produced - such things as work sheets, problem sets, story books, reading comprehension exercises, sentence makers, even games. Do-it-yourself science equipment is sometimes seen, but the quality is so poor as to be detrimental to learning.

As Gibbs and Kazilimani say in their Zambian case study, a culture of creating classroom materials, particularly learning aids, just does not exist. It is too much to expect of teachers, and indeed of TRCs. Only exceptional teachers, anywhere in the world, are creative enough and can spend enough time to produce resources for their own classrooms. It is nice, but totally impractical, to think that most teachers will develop their own aids. This is particularly the case in developing countries where teachers are poorly paid and family responsibilities very demanding, and materials for the construction of teaching aids are scarce.

One thing that is not done consistently is identifying and supporting creative, imaginative teachers who are very good at developing resources for their own use in response to their own perceived needs. All of our case studies document such excellent teachers, perhaps few and far between but nevertheless there. It is a considerable disappointment that we found few education officials who know of these exceptional teachers and few international technical assistants who spend much time in classrooms searching for them. The impact of supporting good teachers, of using them as role models and promoting their exemplary practices is hard to estimate, but it carries considerable promise.

Another promising idea comes from the secondary TRCs in Kenya which work principally in English teaching. They have a loan system for distributing multiple copies of set books for the English examination. These are boxed and borrowed to schools for a given period of time. It is most important to note also that most of the workshops conducted at these TRCs focus on how to teach the set books for the exam.

One of the roles for TRCs frequently mentioned is as a 'drop-in' centre where teachers can come to make teaching aids, seek advice, use reprographic equipment and consult resource books. We made a specific effort in our case studies to check on numbers of users. In all cases, perhaps with the exception of the SIP TACs in Mombasa, there were extremely few 'drop-ins'. For example, on average in Zambia only 2 teachers per week visited the centres. In Nepal, participants on in-service course were asked how many of them come to the TRC and how often. Even those who lived within a 5 km radius, some even one km away, said they had never been to the centre before. We checked the borrowing records of reference books, and at one centre only 5 books had been borrowed in the last year, and those were checked out to trainers. (Secondary TRCs in Nepal have been in existence for some 11 years, most of them in high density population areas.)

There are several possible reasons for this poor 'drop-in' showing. Distance from the centre does influence frequency of visits, but even then the poor figures persist. Also, TRCs are frequently open only during school hours, teachers have to pay to get there, resource books are often terribly old, dense and irrelevant to precise teaching needs.

To summarize this discussion of TRCs as resource centres it can only be said that in our experience TRCs are not providing a resource base for teachers. On the whole, **the TRCs in our study make little significant contribution to improved teaching and learning resources in schools**.

3.0 Teacher resource centres as centres for in-service training

The TRCs in our case studies are the venues for a variety of different kinds of in-service courses: from long up-grading, certificate courses for untrained teachers; to short courses to introduce subject content and pedagogical skills associated with particular development projects; to workshops for orienting teachers to new textbooks. Our principal focus is on in-service training as part of development projects, e.g. APPEP in India; AIEMS in Zambia; and BPEP at the primary level and SEP at the secondary level in Nepal. In Kenya the timing of our study fell during the transition between the old SPRED I and the new SPRED II which is still feeling its way. The main contribution that Kenya makes to this analysis is with the work of the Aga Khan Foundation - as follow-up to its completed SIP project in Kisumu and in its on-going SIP project in Mombasa.

We visited many schools and sat in on many lessons taught by teachers who had been on TRC courses. We were looking for elements in their teaching, in what their pupils were doing in class and in their exercise books that could be traced back to the content of in-service courses held at TRCs. For instance, we were looking for classroom implementation of the 6 APPEP principles and the 12 skills in the AIEMS project. In Nepal we searched for the pedagogical messages that formed the backbone of BPEP and SEP courses.

As with the transfer of resources from TRCs to schools and classrooms, overall, we found little evidence of these new instructional approaches being used in schools and classrooms. With few exceptions what we saw was traditional teaching, in poor teaching and learning environments, untouched by new catechisms.

This finding should not be surprising. The literature on the up-take of new ideas from in-service training makes fairly grim reading for those of us who work in the business. In this sense, then, we are commenting here on a world-wide problem. Remmers (1983:25) puts it this way: 'In-service teacher training seems to me like throwing a stone into a deep fountain and not even hearing a splash.' Nevertheless, what follows are our speculations on why up-take from in-service courses has been so marginal in the projects we visited.

Before moving to this discussion of possible cause of low up-take, we must point out that we have chosen to focus almost exclusively on observable 'impact on practice' as our measure of effectiveness. As discussed above in the chapter describing how we did the study, there are other possible outcomes of in-service work. Outcomes such as new awareness, new knowledge and skills and enhanced motivation from having been on a course may be products of the in-service work we experienced in our case studies. These, of course, are much more difficult outcomes to access. We stress that they may be legitimate outcomes of the in-service work we witnessed, and that in a longer time frame may in fact impact on our teachers' instructional behavior and enhanced learning for their pupils.

Imported Pedagogy - is it relevant?

One of our major concerns is that most courses at TRCs are tied to the pedagogical philosophies, principles and methods pre-determined by project aims. For the most part these are Western oriented, carrying the baggage of such rhetoric and slogans as 'child-centred', 'low-cost, no-cost materials', 'reflective teaching'. We question the relevance of such pedagogical initiatives given the contexts we witnessed - the state of schools and classrooms, the conditions of service for teachers, the basic education of teachers, the professional work ethic, the sheer weight of traditional ways of teaching and learning. We question it also in light of significantly shifting views in the West toward statutory curricula, teacher lead instruction, and prescribed instructional schemes.

The pitch in many of the project based in-service courses is toward creating reflective, flexible professional teachers expected to make decisions about individual children's learning needs, with capacities to create learning materials improvised from local resources and to contextualise the curriculum within the local environment. The gap, between this ideal, if indeed this is what we would aspire to, and the present state of expertise of the vast mass of teachers, is simply too great. It is too big a leap to make. And, in any case, imported pedagogy denies what many teachers do best - lecture, tell stories, use the textbook, use the blackboard. But training does not commonly start here, with where teachers are. It starts with some sort of theoretical import of 'good practice'.

Taking APPEP's '6 Principles', for example: we feel that grouping children goes too far; having them work at their benches with a neighbour to solve a problem on the blackboard when the teacher calls up one pupil to do it, is bridging the gap. Asking higher order questions goes too far because few teachers can frame such questions effectively; having pupils fill in the missing words in a story text gets closer to what teachers do in their chalk and talk lectures. Having teachers create teaching aids goes too far; giving teachers the aids and writing observation questions about them in the pupils' textbook and the teachers' guide fits easier with the lesson planning style of most teachers. Small, incremental steps from where teachers are might just help them to bring back workable messages from TRC courses and to try them out in their classrooms and with their colleagues.

It must be said that projects have moved on since the introduction of the 6 principles in APPEP. More recent projects such as AIEMS in Zambia have in fact tried to evolve some of the content in its skill modules from current classroom practice. Thus we see in its 12 Skills such starting points as 'Planning the Chalkboard' and 'Exploiting the Text Book'. There still remains, however, a lot of content related to the idea of developing reflective, problem solving, creative teachers, e.g. 'Making and Using Teaching Aids', 'Planning Group Work', 'Reflecting'.

Schools - are they ready to receive the message?

The flip side to retailing new pedagogy and materials through in-service training at the local TRC showroom is the ability of the client to use the product. In other words, is the school an able and willing client? Are management systems in schools set up for receiving new ideas; for restructuring them into the context of the school; for curriculum planning? Restructuring and curriculum planning are very difficult, high order, professional tasks which we find most teachers, including headteachers unable to do with any significant degree of success.

Most schools we visited were very far from being able to cope with new approaches and materials and to incorporate them into their teaching and learning programmes. In Nepal, for instance, there are no subject departments in secondary schools or subject coordinators in primary schools. The only curriculum related staff meetings are about making arrangements for terminal examinations. The situation is better in Zambia and in Kenya where there are the curriculum management structures in schools; if not yet expertise in curriculum planning beyond a single lesson.

Teachers centres have an inherent problem in regard to helping develop environments in schools to support change; that is teachers leave their schools and come to the TRC. This is often coupled with the assumption that continues to persist in some programmes; that it is effective for one teacher from a school to attend the in-service course or workshop at the TRC, with the responsibility to share the information and material with colleagues upon returning to their schools. To a certain extent APPEP gets around this problem by having all teachers in a cluster come to the meetings at the TRC. The problem even here, however, continues to be that there are no support staff following them back to their schools. Another attempted solution is to have headteachers come on TRC courses. The head, as curriculum leader, is supposed to cascade new approaches to his/her school. But, they too are expected to function on their own with little outside support when they return to their schools.

The cascade model - where does it stop?

A central problem with cascade systems is that they seldom extend into schools, or go that last step into classrooms. Most often the cascade stops at the TRC. In the Nepal case study we quoted the BPEP document about the purpose of the primary Resource Centre 'to bring new educational activities to the *doorsteps* of schools.' Although not intended by BPEP staff, the statement illustrates so vividly the thorny question of where TRCs fit into a cascade that goes into schools, which indeed should be its destination to be truly effective.

The AIEMS project in Zambia is shifting away from the simple cascade model that stops at the TRC to a commitment to stimulating the development of teachers groups and workshops in schools. Gibbs and Kazilimani in their in-depth analysis of cascade systems, reported in their Zambian case study, suggest that the TRC is becoming circumvented in the move toward school-based in-service training. This begs the question, if the local in-service training base moves to each school in a cluster, what is the purpose of the TRC, other than perhaps as a resource depot with a clerk to run the store?

One partial answer to this problem comes from the Aga Khan funded SIP project in Mombasa, Kenya, as reported by Welford and Khatete in their Kenya case study. It does not follow a cascade model as there are no higher up professionals in distant places composing and handing down curriculum and pedagogy. The director of SIP and the programme officers (PO) sit down once a week to develop the workshop programme through a detailed needs analysis.

In terms of delivery, SIP employs what can perhaps be best described as a 'rolling model'. Its key feature is that the PO picks out a small number of schools, 3 - 4, in a larger cluster of around 12 schools and works intensely with them for one whole year. That is a lot of time and it is very labour intensive. The PO, then, after one year leaves these schools and 'rolls on' to another set of 3 or 4 in the cluster, again for a year. Such close contact between the PO and their schools is helped along by the sheer density of the municipal area of Mombasa and how easy it is to get to schools *every day*. It is only through such intimate contact between advisor and school that the potential for effective mentoring can take place, with all the 'phasing' and 'scaffolding' that we read about in the literature on developing effective teachers and schools.

The question here with SIP, as with the moves AIEMS is making toward school-based work, is what now is the role of the TRC? In Mombasa, government primary TACs and TAC-tutors' exist and function alongside the Aga Khan's POs. Indeed, a TAC-tutor and a PO are assigned together in a TAC. The TAC-tutor and the PO work together 2 days a week in a school or facilitate workshops at the centre. The PO spends the other 3 days in his/her project schools and the TAC-tutor is with h/is other schools in the cluster.

Each TAC in the SIP programme organizes an average of three workshops each school year, and these are open to teachers from all schools in the cluster. This, of course, does not sound like the TAC facility is being used a great deal of the time. It is also used at times as a venue for various meetings, and teachers do drop in, but again not that much. Perhaps the idea of the TAC being there, in the community, as a base of operations for work principally done in schools, justifies its existence. In reality what appears to be its most important purpose and justification is that it holds resources for schools and the centre offices in secure accommodation.

The discussion above has been an attempt to search for possible reasons why there seems to be so little transfer of pedagogical ideas and skills from TRCs to schools. It has also included some speculations about what might help the process of transfer. At the base of these considerations is, of course, what we saw in schools and classrooms. And this leads us to conclude that **in-service courses run through the TRCs in our study make little contribution to improved teaching and learning in schools**.

4.0 Sustainability

The issue of sustainability of TRCs has two dimensions - the ability of TRCs to survive financially; and the ability to sustain their general purpose of helping schools and teachers to improve the quality of children's learning. In both domains we are talking about survival beyond the life of the particular project that set them up originally or subsequently adopted them as orphans of past projects: as in the case of SPRED I to SPRED II in Kenya; SHAPE to AIEMS in Zambia; Science Education Development Project to Secondary Education Development Project in Nepal; and APPEP to DPEP in Andhra Pradesh. Sadly, this adoption of old projects by new projects reveals the end of the story of sustainability to date.

Taking first the issue of financial sustainability. None of the TRCs in our case studies were surviving on their own local resources. We did find, however, several imaginative attempts to do so: levying a 'tax' on schools; setting up shops selling photocopying and soft drinks; getting local business sponsorship; even an attempt to get interest on loans to schools for setting up agricultural projects. But, alas, the income generated from such schemes is small in relation to the expenses needed to maintain facilities, personnel, resources and programmes, ... indeed to pay the electricity bills, which has become a significant problem at some centres in Kenya, Zambia and Andhra Pradesh.

There appears to be no alternative to outside support either through ministries of education or international donor agencies. Governments, while not adverse to maintaining the salary costs of TRC staff, seem to be pulling back on extending full financial support. Conveniently they invoke the 'decentralization' policy. We say 'conveniently' because decentralization has increasingly been put forward as a way to improve quality education, i.e. localising management and contextualizing curriculum, even to the point in some countries for localities being responsible for their own primary level examinations. Financial decentralization is being tacked on to the professional decentralization argument.

A particularly sobering account of what has happened in one project when the outside donor pulled out comes from Welford and Khatete's case study report on Kenya.

> *'The AKES withdrew from its SIP Project in Kisumu in 1996 (moving it to Mombasa), leaving nine established TACs. Kisumu now appears to be struggling to sustain its TACs as functioning entities. Despite the fact that the parents of each of 54,000 pupils enrolled in 128 primary schools pays 50KSh towards TAC activities, most headteachers do not remit any part of this money to the SIP account. The systems established by the AKES to sustain the TACs and to ensure continued input to improve the conditions of learning in Kisumus's primary schools appear to have collapsed at the fundamental stage of transfer of funds from headteachers to the SIP account.'*

The fall-out from this in terms of the curtailment of TAC facilities and programmes in Kisumu makes grim reading.

By and large it is international donors in wave after wave of new projects who continue to sustain TRCs. It is also the international donors who are sustaining the flow of professional ideas. We have not seen or heard of any aid programme that has just given money *carte blanche* to support on-going TRCs programmes. Aid projects carry with them their own professional agenda. They also supply their own international technical experts and hire local consultants of like mind to help implement their agenda. In Zambia, for instance, the Danes aim to incorporate resource centres into their Preservice Teacher Education Programme; and the British are planning to use resource centre facilities in their first language literacy programme. In Andhra Pradesh it is the consortium of donors backing DPEP that is stepping into the breech left by the completion of the ODA (DfID) supported APPEP programme; and undoubtedly it will inject its own professional ideas. In Kenya, the Aga Khan Foundation continues to take its own brand of working with TACs to different localities.

From our perspective, having examined the track record in some detail, it appears that **the sustainability of TRCs, both financially and in terms of the evolution of professional ideas, will continue to be dependent on outside resources, in particular international donors.**

5.0 Teacher Absenteeism and TRCs

It would be irresponsible to discuss the impact of TRCs on teaching and learning in schools without commenting on the role of TRCs in teacher absenteeism. Teacher absenteeism is a major problem which we all found in our respective countries. It is consistently commented upon in the literature as well. Like others, our sympathies go to teachers who are so poorly paid that they must focus energy and time on trying to make up the difference between their teacher's salary and what it takes to feed their families. Our concern, nevertheless, is with children and how the absence of their teacher so reduces their time for learning in school. It is particularly a problem in poor countries because classes are not covered when teachers are absent. In this sense, we have to consider *time* as one of the most precious resources available to children's learning, together with books, pencils and paper and, of course, a teacher.

Going to the TRC takes teachers away from their classes. In some cases, the absence is short and perhaps children's time can be compensated for by gains in their teacher's increased knowledge and skills, motivation and commitment. The APPEP programme, for instance, requires teachers out of post for only 6 days a year. In Nepal, however, in-service courses last a long time, commonly a whole month, and there is no cover for those teachers who attend as participants and those selected heads and senior teachers who attend as trainers. Can their pupils ever be compensated for this loss of time? Even the school-based teacher group meetings in the AIEMS project in Zambia were found to take an inordinate amount of time: '... a teacher group meeting scheduled from 9.30 to 10.30 meant in fact that the teachers did not return to their classes even when the teachers group had finished, and classes were untaught from 9.30 to 12.00 when it was time for lunch.'

Gibbs and Kazilimani report that AIEMS proclaims in one of its brochures that 'One million training hours will ensure four thousand school-based INSET years.' This is a very unfortunate slogan. It masks the point that one teacher hour out of the classroom means that 40 children are without their teacher; and few teachers ever set work for their pupils to do in their absence. It reminds us how forgetful we are in calculating the cost of in-service education in countries where there is no cover for absent teachers. Do we as trainers, education planners and economists, in our enthusiasm for in-service training, realistically count this cost?

We fully realize that it is very difficult to strike a balance between in-service provision and time away from directing children's learning. Yet, we have to conclude that **given the almost complete lack of schools' ability to cover classes when teachers are away from their classes on TRC courses and activities, TRCs contribute significantly to the problem of teacher absenteeism and consequently to a significant loss of time for children's learning.**

6.0 Summary of Findings

In general we found that the expectations placed on TRCs to help teachers develop their capacities to be reflective and flexible, to identify and solve their own problems, to create their own resources and to effectively apply new ideas to teaching and learning have not been realized. Within the time frame of our visits we have seen little observable evidence of the transfer of TRC initiated materials and ideas into practice. TRCs have not, we feel, significantly impacted on the quality of teaching and learning in schools and classrooms. This is not to say that TRC programmes have not produced some positive outcomes. We feel sure that they have, and perhaps such outcomes may come to fruition in classroom practice at some future time.

To be more specific we list the following findings:

On the more positive side

- There is no doubt that the vast majority of teachers enjoy participating in TRC activities, and they like having the idea of a TRC in their community (even if they do not use it very much)

- Educators are being made aware of the existence of new, more active approaches to teaching and learning (even though they are not integrating them into their work)

- Many in-service training courses at TRCs are well designed, are beginning to target specific subjects and to show a stronger application to classroom practice (even if it is not always secured by an understanding of underlying principles which would allow teachers to extend particular skills to new applications)

- The need to follow teachers back to their schools to help them to plan, to develop materials, to teach and revise lessons and evolve schemes of work to support their implementation of new initiatives is becoming recognized (even though the personnel required to do so is much too thinly spread)

- The utilisation rate of TRCs by teachers, students and community members in our case studies is very low, at between 10-20 percent of available time (with exception of SEDUs in Nepal where full-time, residential, certificate courses are being held).

On the more negative side:

- The TRCs in our study make little significant contribution to improved teaching and learning resources in schools; they have not been effective as material development centres where teachers and/or pupils develop teaching and learning aids (with a few notable exceptions)

- In-service courses run through the TRCs in our study make little significant contribution to improved teaching and learning in schools.

- The TRCs in our study have not been effective as 'drop-in' centres for teachers; neither as a 'library' of reference material nor as a depot for loaning books and teaching/learning material to teachers and schools (the Kenyan TRCs being a notable exception)

- Some programmes in our study contribute significantly to the problem of teacher absenteeism and a consequent lose of time for children's learning.

- The sustainability of TRC programmes in our study, both financially and in terms of the evolution of professional ideas, is virtually dependent on outside resources, in particular international donors.

Although quality changes at the classroom level have been very modest, perhaps in the larger picture, some significant changes have come about in formal education systems because of having TRC programmes. There may be gains in terms of institutional development, staff training and development, the production of more relevant teacher training curricula and material. This study has not attempted to assess such possible outcomes in detail.

CHAPTER NINE

Implications and Options

Introduction

In light of our findings, the task we set ourselves in this final chapter is to try to lay out options for how TRCs might become more effective in helping to improve the quality of teaching and learning in schools and classrooms. We have particularly in mind alternatives to the model which has the TRC as a separate physical structure, with one adviser and whose programme relies principally on teachers coming to the centre, to '...study, refer to reference material, develop their own materials and seek counsel from the centre adviser' (Malawi School Support Systems Project 1996-2001, December, 1995). In our experience such things just do not happen to any significant degree. As discussed in the preceding chapter and in our case study reports, we feel that this model produces little change in the quality of teaching and learning in schools and classrooms, and indeed has a significant impact on the problem of teacher absenteeism.

The options we explore do not carry the responsibility and burden of trying to sustain themselves. We have come to accept that TRCs for the foreseeable future have little chance of becoming self-sustaining.

Option 1: The Aga Khan Education Service (AKES) Model in Kenya

Of the TRC programmes we observed that operated by the AKES in Kenya offers the best model. This is because it allows maximum advisory support time in schools and a minimum amount of time for teachers to be absent. The Programme Officer works in only 3 or 4 schools for a whole academic year. S/he frequently works alongside a Teacher Advisory Centre tutor assigned to the cluster. This level of support in school is what is attractive; and not only because advice is more ready to hand. The presence of advisory staff in schools also encourages better teacher attendance at school and in classrooms. Khatete and Welford reported that they never saw a SIP classroom in Mombasa without a teacher.

The role of the TAC functions more as a resource centre than as a training and advisory centre where teachers come. It is used as a venue for courses, but these are relatively few in number across each year.

Another attractive feature of the Mombasa SIP is that there is a team of PO advisers (10 POs in the Mombasa project) all with their own schools. They are able to meet regularly to share ideas, to plan and to support one another. Also, the funders recognise the need for the POs to develop professionally and provide a higher degree programme for this purpose.

There are three basic conditions for the AKES model to work. The first is that the programme operates in a high density population area where advisers can easily get to schools and teachers to centres frequently. Where populations and schools are more scattered other options have to be considered.

The second condition is that the level of staffing of the support and advisory service provided needs to be high. In SIP there is one adviser working with no more than 4 schools over an extended period of time; in addition to the TAC-Tutor supporting all 10 - 15 schools in the Zone. Such a 'high support' programme obviously requires more staff and training for them, i.e. it costs more money than the other TRC projects we have seen.

The third condition is that the community should be heavily involved to the extent that it has a significant financial investment in the programme. This extends to ensuring that members of the community function as chairs and treasurers of management committees.

Option 2: The TRC as a Model School

Most TRCs are located in a school. Few of these schools in any of our case studies seemed to be touched by its TRC: on the whole schools did not use the physical facilities; only marginally the resources; and no more than any other schools the pedagogical content of the in-service courses. Indeed, in Nepal it was staggering to see how unaffected a school was by the presence of its TRC. Other case studies report this problem as well.

However, having said this, we believe that a priority in TRC programmes would be to bring TRCs into host schools. Gibbs and Kazilimani offer several practical ideas to do this: from establishing the centre as the school staff-room, to having classes regularly time-tabled in the centre; to having the centre coordinator taking some classes on a scheduled basis in the school, to developing the centre as a school library.

We would like to give particular emphasis to their idea that the TRC merge with the school to become a 'model school'. We have repeatedly emphasized in this study the need for TRCs to become more operational in schools and how difficult it is for them to do so. Without appearing to be caught up in our own rhetoric, one could envision a 'touchstone school' that is resourced with *no more* materials than other schools in a cluster. The difference would be that the teachers here are employing such materials together with the new skills that are being put forward by the project; serving as a model for their use elsewhere.

Scaling up the practice to other schools in the cluster is, of course, the major problem. There would have to be a system for other schools to come to see what is possible and to provide support for developing similar ways of working back at their schools. Working on the principle that a model school could be one way of increasing the pool of teacher advisers available to a cluster, perhaps a model school teacher (or a team of two) could exchange schools and classes with other teachers in the cluster for a period of time. This would allow 'untrained' teachers to work side-by side with 'model' teachers. And, it would allow the teacher advisers from the model school to set up 'model' classrooms in a cluster school. In such a system classes would be not be left untaught while their teacher was away attending courses. There are many possible permutations and many constraints which we will not pursue further here. The idea of a TRC as a whole school is worth serious consideration.

Option 3: TRCs as Resource Centres of Textbooks and School Supplies

Another option is to drop the idea of the TRC as an advisory, in-service centre in favour of it being a resource centre. It could become a book and school supply depot in those countries where these are provided by governments. Alternatively it could become a commercial enterprise in countries where the production and supply of textbooks and learning materials is increasingly being taken over by commercial publishers. Gibbs and Kazilimani suggest that '... resource centres could play a vital link role in spreading the opportunity for book buying throughout the whole of Zambia.' They continue, 'The sales manager of one leading publisher in Lusaka (Macmillan, Zambia) ... spoke of this interest in using the resource centres as outlets and allowing them a 25% price share.'

Another way that resource centres might act as book suppliers is as mobile book banks, loaning boxes of books and learning resources to schools on a rotational schedule. The TRCs in Kenya, as mentioned above, are doing this and achieving great popularity with schools within a certain distance of the centre for their efforts.

In a resource centre the coordinator could be trained to accumulate, prepare and package resources for schools. For instance s/he could:

- Make textbooks and readers more available to more users by breaking them into chapter sections and packaging them in pamphlet form

- Collect comic books and children's magazines (environment agencies in some countries publish these), similarly break them into sections and package them into pamphlet form

- Set up story and non-fiction writing competitions for teachers and children in the cluster. Offer prizes, copy the best and package them for schools

- Collect and package health, agriculture, environmental and many other such materials available free from government agencies and NGOs in most countries and package them for schools.

Option 4: Textbooks, Learning Materials and Time on the Task of Learning

In this option we suggest that textbooks and associated learning materials should have a greater priority than a focus on the training of teachers. Much of the literature about how to improve the quality of education, particularly basic primary education, consistently puts textbooks and learning materials for pupils and time on the task of learning at the top of the list. The education and training of teachers is some way down that list. This begs the question of why aid programmes so frequently focus on teacher training. Or, where new text materials (and indeed examination reform) are included in development projects, why is training started before the materials are completed and ready for distribution to teachers, as we have found for example in Andhra Pradesh and Nepal?

Of course it is difficult to coordinate the phasing in of new textbooks in relation to educating teachers in their use. Nevertheless, the more general point about priorities of textbooks over in-service teacher training remains. Perhaps the answer lies in the fact that aid projects are relatively short lived, and given the time and money available projects laudably go for what they think will be most sustainable. As Welford and Khatete suggest in their case study of Kenya, 'expertise endures, books decay'.

In an attempt to help teachers become a more 'enduring' resource, projects since Jomtein have for the most part based their in-service training on the view that a teacher should become an autonomous, reflective, flexible *professional*, capable of identifying and solving problems, creating teaching and learning materials and contextualizing instruction and learning within the locality for the children and community they serve. This, we feel, is a wonderful but unrealistic goal. Given masses of children, poor facilities and resources, the numbers of undereducated and undertrained teachers and the sheer size of the education business to be run by personnel with little corporate experience and training, such a professional goal for training seems romantic, naive almost.

We would suggest a more modest and immediate goal for training be given serious consideration, namely that the teacher should become a competent *technician* capable of following prescribed procedures in support of children's use of learning materials.

Obviously both textbooks and teachers are important to improving the quality of education. What we are suggesting is by no means a new idea - that is develop textbooks-cum-workbooks with which children can engage with a degree of independence. **The role of the teacher is not to teach the content, but to support the children in their use of texts** (and other learning materials). Our suggestion acknowledges that teachers most commonly teach from the textbook and use it as their curriculum guide. Why not, then, focus on producing textbooks that engage children actively? In-service training would then be straightforward and principally for orientating teachers to the new texts. Such training is immediately relevant and does not require a great deal of restructuring into lessons in the way that 6 pedagogical principles, 12 teaching skills and how to do hands on investigations in science and mathematics does. If teacher reflection is a goal, the text and its accompanying teachers notes provide a concrete focus. An additional attribute of such learning material is that children can get on with learning when their teacher is absent. This, we feel, is the current state of affairs and where initiatives aimed at improving teaching and learning could usefully begin.

The idea of providing learning materials for children is predicated on being able to develop good text material, not an easy or short task. Basing such material on extensive field work and trialing, which few projects currently do, is essential. However, use of text materials as the principal instructional tool is obviously best for children who have some reading and writing skills. This is not to say that materials can not be written for younger children who are just learning to read and write; of course they can. This may suggest, however, that teachers working in infant classes should be targeted specifically for in-service training.

Concluding Remarks

In summary this study has raised serious doubts about the effectiveness of TRC strategy to have an impact on the quality of teaching and learning in schools and classrooms. Like all other in-service training that takes place away from schools little gets taken back from the TRC. The adoption of a TRC based strategy has not been able to bridge this gap. The problem is the inability of TRC strategy to penetrate schools to the degree necessary to improve the learning environment and the classroom performance of teachers. To have a chance of doing so would require more advisers capable of working intimately with teachers and their children in classrooms over extended periods of time. The average ratio we observed of one adviser to 12 to 15 schools, and all their teachers, is simply unrealistic.

With this in mind we have put forward options other than the use of the TRC as a training and advisory centre. The emphasis, we feel, should shift to a focus on producing learning resources for children. Existing TRCs would act principally as resource centres. Trying to get more textbook-cum-workbooks and other learning materials into the hands of pupils in classrooms with teachers in support of the materials, appears to us to be a promising venture to pursue.

REFERENCES

Abubakar, R.I.A. (1985) A Comparative Study of the Provision of Resource Centres for Certain Secondary Schools in Bauchi State, Nigeria, and in Wales, unpublished MEd Thesis, University of Wales, Cardiff.

Adams, E. (ed) (1975) *In-Service Education and Teachers' Centres*, Oxford: Pergamon International Library/Pergamon Press.

Ahman, I. (n.d.) An approach to external evaluation of training, *Evaluation of Educational Systems: An IIEP Seminar*, UNESCO/International Institute for Educational Planning. 5, 55-65.

AIEMS (Action for Improving English Maths and Science) (1995) *Joint Project Review*, Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1995) *Management Manual*, Lusaka: Ministry of Education, Government of Zambia

AIEMS (Action for Improving English Maths and Science) (1995) *Report of the Joint Project Review Team*, Lusaka/Harare: Ministry of Education, Government of Zambia/ODA (BDDCA).

AIEMS (Action for Improving English Maths and Science) (1996) *Module 1 - The Management of INSET*, Lusaka: Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1996) *Module 4 - Teachers' Groups*, Lusaka: Ministry of Education, Government of Zambia.

AIEMS (Action for Improving English Maths and Science) (1996) *Module 5 - The Twelve Skills*, Lusaka: Ministry of Education, Government of Zambia

AIEMS (Action for Improving English Maths and Science) (1996) *Report of Joint Monitoring Team*, Ministry of Education, Government of Zambia.

Akapelwa, M. (1997) *Mazabuka District Report on Orientation Workshop for Untrained Teachers*, Zambia: Ministry of Education.

Ali, H. (1992) *Professionalism in Teacher Education in Nigerian Universities: Issues and Expectations*, Lagos: Evdor Publishers.

Anderson M.B. (1988) Improving access to schooling in the third world: An overview, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No.1*, Caribbean: Harvard University.

Andrews, J., Housego, I.E. and Thomas, D.C. (1990) Effective in-service programs in developing countries: A study of expert opinion, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Publishing Inc.

Ankrah-Dove, L. (1986) *Teachers and Teacher Education in Developing Countries: Issues in planning, Management and Training*, Kent: Croom Helm

Ankrah-Dove, L. (ed) (1977) *Teachers Groups and Centres in Developing Countries: Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

APEID (Asia and the Pacific Programme of Educational Innovation for Development) (1987) *In-Service Training and Tomorrow's Primary Education: Report of a Workshop on In-Service Training of Educational Personnel Focused on New Developments, Trends and Processes of Primary Education*. APEID, Seoul/Bangkok: UNESCO Regional Office for Education in Asia and the Pacific.

APPEP (Andhra Pradesh Primary Education Project) (1992) *Course Director's Guide, Course VII: Three Day Course for Teachers' Centre Secretaries and Assistant Secretaries: Material additional to Tutor's Guide*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1992) *Course VII: Three Day Course for Teachers' Centre Secretaries and Assistant Secretaries: Tutor's Guide*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1994) *Report of Main Survey 4*, Hyderabad: Directorate of School Education, Andhra Pradesh.

APPEP (Andhra Pradesh Primary Education Project) (1994), *Course V: Initial In-Service Training for Teachers, Participants' Coursebook*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1994), *Course V: Initial In-Service Training for Teachers, Course Guide for Tutors*, Hyderabad: The Project Director, APPEP.

APPEP (Andhra Pradesh Primary Education Project) (1995) *A Brief Overview*, New Delhi: British Council Division.

APPEP (Andhra Pradesh Primary Education Project) (n.d.) *Teachers' Centres: Teachers' Centre Meeting*, Project Director, Andhra Pradesh Primary Education Project, Saifabad, Hyderabad 500 004.

APPEP (Andhra Pradesh Primary Education Project) (n.d.) *Textbook/Readers Project Evaluation Report*, Hyderabad.

Avalos, B. (1993) Teacher training in Developing Countries: Lessons from research, in L.P. Farrell and J.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Ayot, H. (1983) Teacher advisory centres in Kenya, in J. Greenland (ed) *The In-Service Training of Primary School Teachers in English-Speaking Africa*, London: Macmillan Press.

Baker, C.A., Holohan, K.M., Payowela, G.P.M., Marenga, E.A.K. and Zooka, J.M. (1984) *British and Tanzanian Training Institutions Collaborative Programmes: An Evaluation*, Government of Tanzania/ London: ODA Evaluation Department.

Bako, C.I. and Rumble, G. (1993) The National Teachers' Institute, Nigeria, in H. Perraton (ed) *Distance Education for Teacher Training*, London: Routledge.

Beeby, C.E. (1986) The stages of growth in educational systems, in S.P. Heynemanand and D.S White (eds) *The Quality of Education and Economic Development*, Washington: World Bank.

Bennell, P. (1995) *A Training Policy for Education Professionals in Botswana: Report to the Ministry of Education, Government of Botswana*, University of Sussex: Institute of Development Studies (IDS).

Black, H., Govinda, F. K. and Devine, M. (1993) *School Improvement in the Developing World. An Evaluation of the Aga Khan Foundation Programme*, ODA/Aga Khan Foundation/Edinburgh: Scottish Council for Research in Education.

Blackwell, J. (1977) Teacher's groups, centres and curriculum development, in L. Ankrah-Dove (ed) *Teachers Groups and Centres in Developing Countries: Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

Blair, P. (1978) *Learning Resource Centre Economic Analysis: A Training Module*, AID/San Jose State University, San Jose, California. (IDS/British Library for Development Studies Microfiche: LAT 3 74.28 B63 5. University of Sussex.)

Blythe, K. and Pearson, H. (1993) *Report on School-based Pilot Project Support Consultancy*, INSET Project, Jordon. London: British Council/ODA Report, 5777.

Blythman, M. and Woodward, C. (1991) *A Report on the In-Service Teacher Education Project, Botswana*, Report 3960, London: The British Council, ODA Projects Department.

Blythman, M., Lloyd-Smith, M. and Woodward, C. (1992) *Botswana-In-Service Teacher Education Project: Report with Recommendations for British Council*, Report 4014, The British Council/Government of Botswana/London: ODA.

Bolam, R. (1983) INSET for professional development and school improvement *British Journal of In-Service Education*, 9, 14-17.

Bolam, R., Sirrett, R., Sunderland, R. and Vowles, D. (1978) Evaluating INSET: an exercise in teacher, LEA and university collaboration, *British Journal of In-Service Education*, 5 (1), 4-8.

Bradley, H., Flood, P. and Padfield, T. (1974) What do we want for teachers' centres?, *British Journal of In-Service Education*, 1 (3), 41-48.

British Council Division (1995) *Andhra Pradesh Primary Education Project: A Brief Overview*, New Delhi: British Council.

British Development Division in Central Africa (BDDCA) (1994) *Malawi Primary Community Schools Project, 1995-2002*, BDDCA Report, Lilongwe, Malawi.

British Development Division in Central Africa (BDDCA) (1996) *Mozambique Secondary English Project, 1996-2001*, Harare, Zimbabwe: BDDCA Report.

Broadfoot, P. and Osborn, M. *et al.* (1993) *Perceptions of Teaching, Primary School Teachers in England and France*, London: Cassell Education.

Brugelmann, H. (1975) *The Teachers' Centre*, Safari Case Studies, Centre for Applied Research in Education, Occasional Publications (3), University of East Anglia, Norwich.

Bude, U. (1990) *Improving Primary School Teaching: An Evaluation of the Field Based Teacher Development Programme in the Northern Areas of Pakistan*, Bonn: German Foundation for International Development/Deutsche Stiftung fur Internationale Entwicklung (DSE)/Aga Khan Foundation.

Bude, U. and Greenland, J. (eds) (1983) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, DSE: Baden-Baden.

Burrello, L.C. and Orbaugh, T. (1982) Inservice Education in Practice: Reducing the Discrepancy Between the Known and the Unknown in Inservice Education *Phi Delta Kappan*, 63 (6), 385-388.

Bythell, D. W. (1992) An Investigation into the Changing Role of the Field Education Officer in Botswana - A Critical Appraisal and Pointers for the Future, unpublished MEd Thesis, Faculty of Education and Design, Brunel University.

Callewaert, S. and Kallos, D. (1989) *Teaching and Teacher Training in Namibia: Today and Tomorrow*, Stockholm: SIDA Education Division Document, 45, SIDA.

Cambers (1977) In-service: Its rationale, organisation and finance, *British Journal of In-service Education*, 3 (2), 93-97.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 40, Fifth Progress Report*, Cambridge: CEC.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 35, Report of SEDEC/SEDU Management Advisor*, Cambridge: CEC.

Cambridge Education Consultants (CEC) in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu (1996) *Nepal Secondary Education Project, Document 25, Second Report of Science Curriculum and Training Advisor*, Cambridge: CEC.

Capper, J., Nderitu, S. and Ogula, P. (1997) *The School Improvement Programme of the Aga Khan Education Service, Kenya, at Kisumu, Western Kenya: Evaluation Report Prepared for the Aga Khan Foundation*, Aga Khan Education Service: Kenya.

Centre for Educational Research, Evaluation and Services, Nepal (1995) *A Study on Resource Centre Structure: A Report Submitted to Basic and Primary Education Project MOEC/SW, Keshar Mahal*, Nepal: Centre for Educational Research, Evaluation and Services.

Chelu and Mbulwe (1994) The self help action plan for primary education in Zambia, in A. Little, W. Hoppers and R. Gardner (eds) *Beyond Jomtiem: Implementing Primary Education for All*, London: Macmillan Press, pp. 99-123.

Chona, M.G. (1996) The Teacher Resource Centres: Ideas, from the Arusha Workshop, unpublished paper, TDU, Lilongwe, Malawi.

Colbert, V., Chiappe, C. and Arboleda, J. (1993) The New School Program: More and better primary education for children in Colombia, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, p. 41-51.

Collingwood, I.R. (1991) Professional Support for Primary Teachers at the School District Level: A Model and its Training Implications, unpublished MA Thesis, Department of International and Comparative Education, Institute of Education, University of London.

Commonwealth Secretariat (1979) *In-Service Teacher Education in Commonwealth Asia: Report of a Commonwealth Regional Workshop, Sri Lanka 23 Oct-3 Nov 1978*, London: Commonwealth Secretariat.

Commonwealth Secretariat (1980) *In-Service Teacher Education in Commonwealth Africa: Report of a Commonwealth Regional Workshop, Swaziland 15-25 May 19 79*, London: Commonwealth Secretariat.

Commonwealth Secretariat (1982) *In-Service Education of Teachers in the Commonwealth*, London: Commonwealth Secretariat.

Dadds, M. (1997) Continuing professional development: nurturing the expert within, *British Journal of In-Service Education*, 23 (1), 31-38.

Dadey, A. and Harber, C. (1991) *Training and Professional Support for Headship in Africa*, Quality in Basic Education Teacher Management Background/Policy Paper, London: Commonwealth Secretariat.

Dahal, N.R. (1986) In-Service Training of the Science Teachers of the Koshi Hill Area of Nepal - An Analysis of the Work of the Education Resource Centre, unpublished Dissertation for the Diploma in Educational Studies, School of Education, University of Leeds.

Dalin, P. (1990) Educational renewal and staff development, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, London: Garland Press.

Dalin, P. (1994) *How Schools Improve*, London: IMTEC.

Davis, L. (1994) The management and mismanagement of school effectiveness, *Compare*, 24 (3), 205-216.

Davison, T. (1996) *Evaluation of the Andhra Pradesh Primary Education Project (APPEP): A Brief non-Technical Overview*, Hyderabad: APPEP.

Dean, J. (1992) *Effectiveness in the Advisory Service*, Educational Management Information Exchange (EMIE)/ Slough: NFER.

Department of Education, Government of Andhra Pradesh (n.d.) *District Primary Education Programme (DPEP) State Plan*, Hyderabad: Department of Education.

Department of Education, Ministry of Human Resource Development (1995) *District Primary Education Programme (DPEP) Guidelines*, New Delhi.

District Primary Education Programme (DPEP) Warangal (1997) *Training Programme on Training Strategies for Primary School Teachers*, Warangal: Govt. Dist. Institute of Education and Training.

Eisemon, T.O., Schwille, L., Prouty, R., Ukobizoba, R., Kana, D. and Manirabona, G. (1993) Providing quality education when resources are scarce: Strategies for increasing primary school effectiveness in Burundi, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 130-157.

English, R. (1995) INSET: initiating change or merely supporting it?, *British Journal of In-Service Education*, 21 (3), 295-309.

Eshiwani, G.S. (1993) *Education in Kenya Since Independence*, Nairobi: East African Educational Publishers.

Farrell, L.P. (1993) International lessons for school effectiveness: The view from the developing world, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Farrell, L.P. and Oliveira, L.B(eds) (1993) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Fullan, M. and Hargreaves, A. (1992) *Teacher Development and Educational Change*, London: Falmer Press.

Fuller, B. (1987) What school factors raise achievement in the 3rd world? *Review of Educational Research*, 57 (3), 255-292.

Fuller, B. and Clark, P. (1994) Raising school effects while ignoring culture? Local conditions and the influence of classroom tools, rules and pedagogy *Review of Educational Research*, 64 (1), 119-157.

Fuller, B. and Snyder, C.W.Jr. (1991) Vocal Teachers, Silent Pupils? Life in Botswana Classrooms, *Comparative Education Review*, 35 (2), 274-294.

Gardner, R. (ed) (n.d.) *Teacher Education in Developing Countries - Prospects for the Eighties*, Department of Education in Developing Countries, University of London Institute of Education.

Gbari, K.Y.S. (1991) The In-service Training Needs of Teachers of English as a Foreign Language in Cote d'Ivoire, unpublished PhD Thesis, School of Education, University of Leeds.

Giggey, S. (1988) *Rural Community Resource Centres: A Guide for Developing Countries*, London: Macmillan.

Gough, B. (1975) Teachers' centres as providers of in-service education, *British Journal of In-Service Education*, 1 (3), 11-15.

Gough, B. (1989) 20 years or so of teachers' centres. What have we learned? What can we share?, *British Journal of In-Service Education*, 15, 51-54.

Gough, B. (1997) Teacher's centres as seen through the pages of the British Journal of In-Service Education, *British Journal of In-Service Education*, 23 (1), 23-29.

Greenland, J. (1983a) The inSET Africa project: an interim report, in U. Bude and J. Greenland (eds) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, Baden-Baden: Deutsche Stiftung fur Internationale Entwicklung (DSE).

Greenland, J. (1984) InSET policy and provision in Africa in the early 1980s: Where do we go from here?, in U. Bude and J. Greenland (eds) *West African Approaches to INSET for Primary School Teachers*, German Foundation for International Development/Bonn: Deutsche Stiftung fur Internationale Entwicklung (DSE).

Greenland, J. (ed) (1983b) *The In-Service Training of Primary School Teachers in English-Speaking Africa*, London: Macmillan Press.

Greenland, J. and Bude, U. (eds) (1984) *West African Approaches to INSET for Primary School Teachers*, German Foundation for International Development/Bonn: Deutsche Stiftung fur Internationale Entwicklung (DSE).

GTZ (1996) A Report on the Establishment of Sub-Zonal Centres in Zomba District, unpublished report, Zomba, Malawi: GTZ Basic Education Project.

Guthrie, G. (1980) Stages of educational development? Beeby revisited, *International Review of Education*, 26 (4), 411-435.

Guthrie, G. (1982) Reviews of teacher training and teacher performance in developing countries: Beeby revisited (2), in*ternational Review of Education*, 28, 291-306.

Guthrie, G. (1990) To the defence of traditional teaching in lesser developed countries, in V.D. Rust and P. Dalin (eds), *Teachers and Teaching in the Developing World*, London: Garland Press.

Haddad, W. (1985) Teacher training: A review of World Bank experience, *EDT Discussion Paper 21*, World Bank, Population and Human Resources Department, Washington DC.

Hargreaves, A. (1992) Cultures of teaching: a focus of change, in A. Hargreaves and M. Fullan (eds), *Understanding Teacher Development*, London: Cassell.

Harvey, S. (n.d.) *Developing Primary School Science Teachers: A book for trainers*, Braamfontein (National Office, Box 32198, Braamfontein 2017): Primary Science Programme.

Harvey, S.P. (1997) Primary Science InSET in South Africa: An Evaluation of Classroom Support, unpublished PhD Thesis.

Havelock, R. and Huberman, M. (1977) *Solving Educational Problems*, UNESCO, Paris.

Hawes, H. (1977) The role of teachers' groups and centres in developing countries, in Ankrah-Dove, L. (ed) *Teachers Groups and Centres in Developing Countries: Report of a Workshop held jointly by the British Council and the Department of Education in Developing Countries*, London: University of London, School of Education.

Hayes, D. (1995) In-service teacher development: some basic principles. *ELT Journal, 49, 3, 252-261.*

Henderson, E.S. (1977) An investigation of some outcomes of in-service training, *British Journal of In-Service Education*, 3, 4-17.

His Majesty's Government of Nepal/ODA (1996) *Nepal: Secondary Education project: Second Report of Science Curriculum and Training Adviser*, Draft Document 25, Cambridge Education Consultants Ltd, in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu.

His Majesty's Government of Nepal/ODA (1996) *Nepal: Secondary Education project: Report of EC/SEDU Management Adviser*, Document 35, Cambridge Education Consultants Ltd, in association with Education Development and Research Consultancy of Kathmandu and Metcon of Kathmandu.

Hodgson, F. and Whalley, G. (1990) Evaluating the effectiveness of in-service education, *British Journal of In-Service Education*, 16 (3), 10-11.

Hoppers, W. (1996) *Teachers' Centres and Resource Work in Southern African Education: An Investigation into Decentralization and Educational Reform*, paper presented at NASEDEC Conference, October 1996, Harare, Zimbabwe.

Hoppers, W.H.M.L. (1989) The response from the grassroots: Self-reliance in Zambian education', *IDS Bulletin*, 20 (l), 17-23.

International Institute for Environment and Development (1995) *Resource Centres for Participatory Learning and Action*, abridged version of Consultancy Report, IIED: London.

Ishumi, A.G.M. (1992) External aid: A lever for social progress in developing Countries? A case study of SIDA-supported educational projects in Tanzania, 1970-1990s, *International Journal of Educational Development*, 12 (4), 265-276.

Jain, P.S. (1997) Program Success and Management of Integrated Primary Education in Developing Countries, *World Development*, 25 (3), 349-358.

John, G.M. (1993) *Report on Teachers Centres to the Field Manager, Andhra Pradesh Primary Education Project*, APPEP/British High Commission, British Council Division, Madras 600 002.

Jones, A., Lambert, A., Ndungu, J.B. *et al.* (1986) *Joint Review of British Assistance to Education Projects in Kenya. 7-25 July*, ODA/London and Nairobi: British Development Division in Eastern Africa.

Jong-hee, R. (1984) *Tasks for the Development of In-Service Teacher Education*, Seoul: Korean Educational Development Institute.

Joyce, B. and Showers, B. (1980) Improving in-service training: the message of research, *Educational Leadership*, February, 379-384.

Joyce, B. and Showers, B. (1988) *Student Achievement Through Staff Development*, New York and London: Longman.

Judge, H. (1980) Teaching and professionalization: an essay on ambiguity, in E. Hoyle and J. Meggary, *World Year Book of Education 1980: Professional Development of Teachers*, London: Kogan Page.

Kahn, H. (1982) Teachers' centres - A Commonwealth perspective, *British Journal of In-Service Education*, 9, 75-80.

Kahn, H. (1991) *Teachers' Resource Centres*, Commonwealth Education Handbooks, London: Commonwealth Secretariat.

Kaluba, L.H. (1986) Education in Zambia: the problem of access to schooling and the paradox of the private school solution, *Comparative Education*, 22 (2), 159-169.

Kapinga, S.R. (1996) *Country Papers: Tanzania Resource Centres*, presented at Regional Workshop on TRCs, Arusha, Tanzania June 3-7, 1996.

Kinder, K. and Harland, J. (1991) *The Impact of INSET: the case of primary science*, Windsor: NFER.

Kirk, G. (1992) INSET in the new era, *British Journal of In-Service Education*, 18, 140-144.

Labor, A. (1982) *In-Service Training of Primary School Teachers in Sierra Leone: An INSET Africa Project Country Profile*, School of Education, University of Bristol/ODA.

Lee, M. (1997) The development of in-service education and training as seen through the pages of the British Journal of In-Service Education, *British Journal of In-Service Education*, 23 (1), 9-20.

Leonardos, A.C. (1993) CIEP: A democratic school model for educating economically disadvantaged students in Brazil?, in H. M. Levin and M. E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 69-86.

Levesque, D. (1990) Improving the Efficiency of Secondary School Management in Botswana, unpublished MA Dissertation, Faculty of Education and Community Studies, University of Reading.

Levin, H.M. and Lockheed, M.E. (eds) (1993) *Effective Schools in Developing Countries*, Falmer Press: London and Washington DC.

Lewin, K.M. (1998) Counting the Cost of Teacher Education: Cost and Quality Issues, unpublished paper, University of Sussex: Centre for International Education.

Lilley, C.D. (1990) A Study of the Development of Teachers' Centres in Kenya and Tanzania, and the Resulting Implications for the Setting up of Further Teachers' Centres, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Linehan, S. (n.d.) The AIEMS School-Based Inservice Programme (focus on classroom skills and teachers' groups), unpublished paper by INSET Development Advisor, Lusaka, Ministry of Education.

Little, A. and Sivasithambaram, R. (1993) Improving educational effectiveness in a plantation school: the case of the Gonakelle School in Sri Lanka, in H. M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 87-107.

Little, A., Hoppers, W. and Gardner, R. (eds) (1994) *Beyond Jomtiem: Implementing Primary Education for All*, London: Macmillan Press.

Lockheed, M.E. (1993) The condition of primary education in developing countries, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 20-40.

Lockheed, M.E. and Levin, H.M. (1993) Creating effective schools, in H.M. Levin and M.E. Lockheed (eds) *Effective Schools in Developing Countries*, London and Washington DC: Falmer Press, pp. 1-19.

Lockheed, M.E., Verspoor, A.M. *et al.* (1991) *Improving Primary Education in Developing Countries*, World Bank/Oxford: Oxford University Press.

Macdonald, M.A. and Rogan, J.M. (1985) The in-service component of an innovation: a case study in an African setting, *Journal of Curriculum Studies*, 17 (1), 63-85.

Matsetse, M. (1995) Annual Report: Tsabong Education Centre, Botswana, unpublished Report, Botswana, Tsabong Education Centre.

Maxwell, T.W. (1992) Inservice: Four innovatory programs in a small rural education system, *British Journal of In-Service Education*, 18, 166-175.

McGinn, N.F. and Borden, A.M. (1995) *Framing Questions, Constructing Answers Linking Research with Education Policy for Developing Countries*, Cambridge, Massachusetts: Harvard Studies in International Development, Harvard University.

McNie, B., White, R. and Wight, J. (1991) *Headteacher Management Training and the Development of Support Materials: A Planning Overview*, Quality in Basic Education - Teacher Management Resource Manual, London: Commonwealth Secretariat.

Metcon Consultants (1996) *Nepal Secondary Education Project: Micro Study on the Management of Secondary Schools, Draft Final Report, Main Volume*, Nepal (PO Box 4412 Tangal, Kathmandu-2): Metcon Consultants.

Midwinter, E. (1974) Teachers' centres: the facilitators, *British Journal of In-Service Education*, 1 (1), 10-14.

Milroy, C.P. (1974) The future of in-service education, *British Journal of In-Service Education*, 1 (2), pp. 34-35.

Ministry of Education, Government of Kenya (1992) *An Evaluation of the Secondary English Language Project*, conducted by Hirani Ratcliffe Development Consultants (HRDC) under assignment from the ODA.

Ministry of Education, Government of Kenya (1996) *Evaluation Report: Strengthening of Primary Education (SPRED) Project* (Extract), Hirani Ratcliffe Development Consultants, Human Resource Planners (under assignment from the ODA).

Ministry of Education, Government of Kenya (1996) *Strengthening of Primary Education (SPRED) Project: End of Project Report*, Nakuru: SPRED Summative Report Writing Workshop.

Ministry of Education, Government of Uganda (1996) Arusha Regional Workshop - Teacher Resource Centres, Country Presentation by INSSTEP (In-Service Secondary Teacher Education Project), Inspectorate, Ministry of Education. Kampala. Unpublished paper presented at Regional Workshop on TRCs, Arusha, Tanzania June 3-7, 1996.

Ministry of Education, United Republic of Tanzania (1988) *The Impact of Some Centralized In-Service Courses on the Teachers' Competence in Primary Schools*, Dar Es Salaam: Directorate of Teacher Education, Ministry of Education.

Ministry of Education, Zimbabwe (1996) Regional Workshop-Teachers Resource Centre, unpublished paper presented at Regional Workshop on TRCs, Arusha, Tanzania, June 3-7, 1996.

Ministry of General Education and Culture/Ministry of Higher Education, Republic of Zambia (1985) *Self-Help Action Plan for Education (SHAPE), 1986-88, incorporating In-Service Education for Teachers (INSET) Programme Education with Production Programme Practical Skills Programme*, Lusaka.

Misra, R.P. (1991) Local planning for educational development, *Journal of Rural Development*, NIRD, Hyderabad (India),10 (5), 543-559.

Miti, M. and Herriot, A. (n.d.) *Action to Improve English, Mathematics and Science (AIEMS): A Case Study in Zambia - The Start-up Process*, Third Oxford International Conference Paper.

Modi, P. (1997) *Project History: Strengthening of Primary Education (SPRED) Project, Kenya*, London: ODA.

Moloma, R. (1983) The Botswana In-Service Team: a mobile support for primary schools, in J. Greenland (ed) *The in-service training of primary school teachers in English speaking Africa*, London: Macmillan.

Montera-Sieburth (1989) Classroom Management: Instructional Strategies and the Allocation of Learning Resources, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No.4*, Caribbean: Harvard University.

Morant, R.W. (1978) Re-appraising the role of teachers' centres, *British Journal of In - Service Education*, 4, 198-205.

Morrison, K., Gott, R. and Ashman, T. (1989) A cascade model of curriculum innovation, *British Journal of In -Service Education*, 15, 159-170.

MS/DANIDA and Ministry of Education and Culture, Tanzania (1996) *Teachers Resource Centres: Regional Workshop on Teachers Resource Centres, Arusha, Tanzania June 3-7, 1996 - A Sharing of Experiences: The Workshop Report.*

Nair, A. (1996) Resource Centres - The Zambia AIEMS Experience, unpublished paper, Primary Community Schools Project, Lusaka.

Natham, M. (1990) The INSET revolution, *British Journal of In-Service Education*, 16 (3), 156-161.

Nielsen, H.D. and Tatto, M.T. (1993) Teacher upgrading in Sri Lanka and Indonesia, in H. Perraton (ed) *Distance Education for Teacher Training*, London: Routledge.

Ogbu, O. and Gallagher, M. (1991) On public expenditure and delivery of education in Sub-Saharan Africa, *Comparative Education Review*, 35 (2), 295-318.

Okemwa, R.N. (1990) A Proposal for the Setting up and Management of Secondary School Teachers' Resource Centres in Kenya, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Oliveira. J. and Farrell, L.P. (1993) Teacher costs and teacher effectiveness in Developing Countries, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in Developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Parsons, C. (1990) Evaluating aspects of a local education authority's in-service programme, *British Journal of In-Service Education*, 16 (3), 4-7.

Pennycuick, D. (1993) *School Effectiveness in Developing Countries: A Summary of the Research Evidence*, London: Series No. 1, ODA Occasional Papers in Education.

Poignant, R. (n.d.) Possible criteria for evaluating education policies, in UNESCO/International Institute for Educational Planning. *Evaluation of Educational Systems: An IIEP Seminar*, Document No 1.

Putsoa, B. (1983) Alternative priorities for inSET, in U. Bude and J. Greenland (eds) *Inservice Education and Training of Primary School Teachers in Anglophone Africa*, Baden-Baden: DSE.

Rao, K.N. (1994) *Evaluation of an APPEP Training Course: A Case Study of Course-VB for Teachers*, Hyderabad: British Council Division AP Projects Office.

Raubenheimer, C. (1992) An emerging approach to teacher development: Who drives the bus?, *Perspectives in Education*, 14 (1), 67-80.

Raudenbush, S.W., Eamsukkawat, S., Di-Ibor, I., Kamali, M. and Taoklam, W. (1992) *On-the-Job Improvements in Teacher Competence: Policy Options and their Effects on*

Teaching and Learning in Thailand, Washington DC: World Bank Working Papers, Education and Employment.

Rauwe, B.A. (1992) A Critical Study of the In-Service Education of the Botswana Education Centres: Its Impact in Primary Education, unpublished MA Dissertation, School of Education, University of Leeds.

Redknap, C. (1977) *Focus on Teachers' Centres*, Windsor: NFER Publishing Company.

Richards, C. (1972) Teachers' Centre's - A primary school view', *Trends in Education*, 25, 31-33.

Roy, S.G., Mitra, S.K. and Ray, S.S. (1995) *Achievement level of Primary School Children at the end of Class IV*, West Bengal: Indian Statistical Institute, Calcutta and State Council of Educational Research and Training.

Rust, V. and Dalin, P. (1990) (eds) *Teachers and Teaching in the Developing World*, New York: Garland Press.

Schon, D. (1983) *The Reflective Practitioner*, New York: Basi Books.

Schwarz, P.A. (1995) Evaluation of the Pakistani primary project: a methodological case study in B. Searle (ed) *Evaluation in World Bank Education Projects: Lessons from Three Case Studies.*

Shaeffer, S. (1990) Participatory approaches to teacher training, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Publishing, pp. 95-114.

Shaeffer, S. (1993) Participatory approaches to teacher training, in L.P. Farrell and L.B. Oliveira (eds) *Teachers in developing Countries: Improving Effectiveness and Managing Costs*, Washington DC: World Bank, Economic Development Institute Seminar Series.

Shahabuddin, F. (1993) In-service Teacher Training in Urban Pakistan, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Shaw, M. (1995) *Resource Centre Consultancy: Consultant's (Draft) Report to ODA and National Institute for Educational Development (NIED), Namibia, of First In-Country Visit, Nov-Dec 1995,* Oxford Centre for Education Management, Oxford: Oxford Brookes University.

Shiundu, J.S. and Omulando, S.J. (1992) *Curriculum Theory and Practice in Kenya*, Nairobi: Nairobi University Press.

Singh, J.S. and Mukherjee H. (1993) Education and National Integration in Malaysia: Stocktaking Thirty Years after Independence, *International Journal of Educational Development*, 13 (2), 89-102.

Slaven, G. (n.d.) The Action to Improve English, Maths and Science Project (AIEMS), unpublished paper, British Council, Lusaka.

Stanton, M. (1990) So you're an advisory teacher are you? *British Journal of Inservice Education*, 16 (3), 53-58.

Sunwani, V.K. (1994) In-Service Teacher Training in India: Creating a Framework for a Short Course for Secondary English Teachers in the Eastern Region, unpublished MEd (TESOL) Thesis, School of Education, University of Leeds.

Sweed, E. (1992) Teacher Development and Institutional Change, unpublished MEd Thesis, University of Exeter.

Taylor, D. (1996) *The Development of Human Resources for Secondary Education in Europe: Teaching and Non-teaching Staff - Today and Tomorrow: Report of the Seminar*, Estoril, Portugal 30 May-1 June 1996, Council of Europe (CDCC): Strasbourg.

Thiagarajan, S. and Pasigna, A.L. (1988) Literature Review on the Soft Technologies of Learning, *BRIDGES (Basic Research and Implementation in Developing Education Systems) Research Report Series No. 2*, Caribbean: Harvard University.

Thompson, A.R. (1990) Making the best use of teachers: Deployment issues, in V.D. Rust and P. Dalin (eds) *Teachers and Teaching in the Developing World*, New York and London: Garland Press, pp. 123-150.

Thompson, L. (19) INSET provision, teachers' perceptions in the 1990s, *British Journal of In-Service Education*, 19 (3), 50-53.

Thornbury, R. (1973) Teachers' Centres, *New Society 28*, 27th June, pp. 761-63.

Thornbury, R. (ed) (1973) *Teachers' Centres*, London: Darton, Longman and Todd.

Topping, K. and Brindle, P. (1978) Evaluation of in-service training courses, *British Journal of In-Service Education*, 5 (2), pp. 49-51.

Treffgarne C.B.W. (1990) Report of a Review of the English Teacher Support Project (Mali), 26 May-2 June 1990, unpublished ODA Report, London.

Treffgarne, C.B.W. (1990) Report on a Monitoring Visit to ODA's ELT Project in Pre-Service and In-Service Teacher Education in Madagascar, 28 January-5 February 1990, unpublished ODA Report, London.

Treffgarne, C.B.W. and Bazeley, A.J. (1990) Report on a Review of ODA's ELT Project in In-Service Teacher Education and Materials Development (Congo), 4-11 June 1990, unpublished ODA Report, London.

Trevaskis, G.A. (1969) *In-Service Teacher Training in English-Speaking Africa: A Report Prepared for the Afro-Anglo-American Programme in Teacher Education*, New York: Afro-Anglo-American Programme in Teacher Education.

Tribhuvan University (1997) *Teacher Supervision and Support Services for Primary Schools in Nepal (A Diagnostic Study Conducted in Collaboration with IIEP): A Study Report*, Tribuvan University, Kathmandu: Research Centre for Education Innovation and Development.

UNICEF/UNESCO (n.d.) *The Learning of Those Who Teach: Towards a New Paradigm of Teacher Education.* (Thematic Portfolio as part of `Education for All: Making it Work' case studies.)

UNICEF-Phnom Penh (1994) *Battambang Cluster Schools Project: International Rescue Committee (IRC) Project Evaluation, September 18-21, 1994*, Phnom Penh: UNICEF.

UNICEF-Phnom Penh (1994) *Evaluation of the Cluster School Project in Takeo and Banteay Meanchey Cambodia*, Phnom Penh: UNICEF.

United Nations Development Programme and UNESCO (n.d.) *Educational Innovation and Reform UNDP/UNESCO Joint Evaluation of Educational Innovation and Reform Projects*, Washington DC.

Veugelers, W. and Zijlstra, H. (1995) Learning together: in-service education in networks of schools, *British Journal of In-Service Education*, 21 (1), 37-48.

Voluntary Services Overseas (various dates) *Placement Summaries (Uganda, The Gambia, Thailand Kenya Pakistan).*

Vulliamy, G. (1993) The impact of global education INSET, *British Journal of In-Service Education*, 19 (3), 29-36.

Warwick, D.P., Nauman, H. and Reimers, F.M. (1991) *Teacher Training and Schooling Effectiveness in Pakistan*, Development Discussion Paper No. 397 ES, Cambridge, Massachusetts: Harvard Institute for International Development, Harvard University.

Weindling, D., Reid, M.I. and Davis, P. (1983*) Teachers' centres: A focus for In-Service education?* Schools Council Working Paper 74, London: Methuen Educational.

Weir, C.J. and Burton, J.C. (1994) *The Role and Design of Baseline Studies in the Evaluation of English Language Teacher training in the Case of Guinea*, ODA Evaluation Report EV511, London: ODA.

Weir, C.W. (1995) *Report on an ODA funded Consultancy under the English Teacher Education Project - Evaluation of the Regional English Support Centres, Sri Lanka*, London: ODA/British Council Report.

Welford, G. (1996) Teachers' Resource Centre Regional Workshop: Arusha, Tanzania 3-7 June, unpublished internal report, School of Education, University of Leeds, Leeds.

Wilson, L. and Easen, P. (1995) 'Teacher Needs' and practice development: implications for in-classroom support, *British Journal of In-Service Education*, 21 (3), 273-285.

Wolff, L., Schiefelbein, E. and Valenzuela, J. (1994) *Improving the Quality of Primary Education in Latin America and the Carribean: Toward the 21st Century*, World Bank Discussion Papers No 257, World Bank.

Wolff, L., Schiefelbein, E. and Valenzuela, J. (1994) *Improving the Quality of Primary Education in Latin America and the Caribbean*, Washington DC: World Bank Discussion Paper 257.

Wood, F.H. and Thompson, S.R. (1980) Guidelines for better staff development *Educational Leadership*, February, pp. 374-378.

World Bank (n.d.) *Education in sub-Saharan Africa: Policies for Adjustment, Revitalization, and Expansion*, Washington DC: World Bank Publications.

World Bank/The International Bank for Reconstruction and Development (1995) *Priorities and Strategies for Education - A World Bank Review*, Washington DC: World Bank Publications.

Zeichner, K.M.(1983) Alternative paradigms of teacher education, *Journal of Teacher Education*, 34 (3), 2-9.

Zulu, C.E. (n.d, [a]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper: Overview, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E. (n.d, [b]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper 2: Accounting for the GRZ grant released to Resource Centres, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E. (n.d, [c]) Provincial and District Teachers' Resource Centres - Issues in Financial Management. Paper 3: Funding for INSET Workshops under AIEMS, unpublished paper from Chief Inspector of Schools, Ministry of Education, Government of Zambia, to all Provincial and District Resource Centre Co-ordinators, Lusaka.

Zulu, C.E., Mwale, G. *et al.* (1996) *Action for Improving English, Mathematics and Science (AIEMS): Report of Joint Monitoring Team 11-17 March 1996*, Ministry of Education, Zambia/ODA (BDDCA), Lusaka.

DFID Department for International Development

Department For International Development
94 Victoria Street
London SW1E 5JL

ISBN: 1 86192 141 1